

7. On the Australasian Spiders of the Subfamily
Sparassinae. By H. R. HOGG, M.A., F.Z.S.

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(Text-figures 85-104.)

The members of this subfamily are abundant in all tropical and subtropical countries. Their large size and hairy appearance enable them to inspire a sentiment of fear out of all proportion to their really timid nature and defenceless character. This has no doubt acted as a means of protection to them.

Living originally about the trunks and under the loose bark of trees, they have adapted themselves readily to the shelter afforded by the houses of mankind, and find a congenial habitat under the eaves of most dwelling-houses. In fact, wherever an undisturbed dry and darkish receptacle is available they are sure to be discovered, and where allowed to settle prove valuable assistants in keeping down the numbers of the house-flies—the pest of all hot countries.

As members of the family Clubionidæ, they are furnished with unguis tufts, two well pectinated tarsal claws, scopulæ along both tarsi and metatarsi, and have the surface of the maxillæ convex, without any median depression.

The eyes, always eight in number, are disposed in two more or less parallel transverse rows of four each, without much variation in size or relative position.

In Australia the indigenous species have developed a distinctly characteristic type of genital organ. In by far the larger number the stylus in the male palp is produced into a flagellum of remarkable length, sometimes more than twice the length of the cephalothorax; this, for its protection, is curled spirally round a specially grooved drum, and this again has been formed by the rolling up of a riband-like elongation of a projection which, in the *Heteropoda* of a short columnar form only, has had its use as a feeler.

The two parts are quite separate and detachable and can be unrolled. This particular development is unique and, so far as I am aware, entirely confined to the Australian region. The flagellum part of it may be seen more or less developed in other forms such as *Pandercetes*, *Clastes*, and many of the Thomisidæ, and several earlier stages of the more perfect form can be seen, as will be described below.

From their habit of living between the bark and hard surface of trees, nearly the whole subfamily has had the position of the legs so modified as to move horizontally, thus enabling its members to shuffle along without raising the joints. They can thus obtain prey and shelter in narrow interstices where many of

their smaller fellows could not follow. In some instances both cephalothorax and abdomen have likewise become abnormally flattened, accompanied in the more pronounced forms such as *Delena* by a lateral extension of the eyes.

L. Koch originally included in this group the *Hemichloinae*, in consequence of a similar and even more exaggerated flattening of the whole body clearly arising from the same habits; but as they are an offshoot of another family, the Drassidæ, they have been rightly separated by M. Simon, and I do not include them in the present paper.

The Australasian genera may be grouped as follows:—

- | | |
|--|--------------|
| A. Median eyes of the front row distinctly smaller than the laterals, being about three-fifths the diameter of the latter; the area of the four median eyes longer than broad. The highest part of the cephalothorax in the posterior one-third, thence sloping anteriorly; generally no flagellum in the male palp, or, if present, no spiral drum. | |
| a ¹ . Rear row of eyes recurved; laterals protuberant | HETEROPODEÆ. |
| a ² . Rear row of eyes straight or procurved; lateral eyes sessile | PALYSTÆÆ. |
| B. Median eyes of the front row larger than, equal to, or only slightly smaller (about one-fifth of diameter) than laterals of same. The median-eye square not longer than broad (except in <i>Pediana</i>). The stylus of the male palp produced into a flagellum, coiled round a supporting drum, which is spirally grooved for its reception. Cephalothorax either quite flat above or highest in front half, thence sloping posteriorly | DELENEÆ. |

Group HETEROPODEÆ.

The members of this group found in Australia at the present time, although probably more like the original type, from which the large bulk of the laterigrade spiders now inhabiting the continent must have been specialized, would seem to be of comparatively recent importation.

The species are all either to be found themselves or have near relatives in the islands to the North and East.

Entering evidently from Cape York, they are most numerous along the coast of Queensland and New South Wales, while a few isolated specimens have been recorded as far as the centre of Victoria, from Adelaide, and from Central Australia.

They show scant signs of compression, and the distance between the two rows of eyes is greater than in the more widely-spread indigenous types, while they are without the spiral conductor and generally without any elongated stylus in the male palp.

The genera may be distinguished as follows:—

- | | |
|---|-----------------------------|
| A. Rear row of eyes only slightly recurved; median pair of same nearly as far apart as they are distant from the side eyes | <i>Heteropoda</i> Latr. |
| B. Rear row of eyes strongly recurved. Rear middle eyes about four times as far from the side eyes as from one another (<i>sec.</i> L. Koch) | <i>Pandercetes</i> L. Koch. |

Genus *HETEROPODA* Latr.

Heteropoda Latreille, Nouv. Dict. Hist. Nat. xxiv. 1804, p. 135.

Sarotes Sund. Consp. Arach. 1833, p. 28.

Ocyptete C. Koch, Uebersicht des Arach. Syst. 1837, p. 27 (ad part.).

Sarotes L. Koch, Ar. Aust. 1875, p. 659.

Heteropoda Latr., Thorell, Rag. Mal. vol. i. 1877, p. 145 et al.

Heteropoda Latr., E. Simon, Hist. Nat. des Ar. 1897, vol. ii. p. 54.

L. Koch (*loc. cit.* p. 709 *et seq.*) described a good many species under the title of *Heteropoda*, none of which, as both Dr. Thorell and M. Simon have shown, conform to Latreille's genus, and they have been removed by M. Simon to *Sparassus* Walck. Furthermore, the species placed by L. Koch under *Sarotes* Sund. really belong to *Heteropoda* Latr., where they are now recorded. To these is added *H. lycodes*, described by Thorell from Cape York under its correct title.

[*Note*.—L. Koch had two species, described as *Sarotes badius* L. Koch (Ar. Austr. p. 662) and *Heteropoda badia* L. Koch (*l. c.* p. 712), both from the Island of Boeroe near New Guinea; as also *Heteropoda hæmorrhoidalis* L. Koch (*l. c.* p. 726). Thorell also described *Sparassus hæmorrhoidalis* Thor.

To avoid confusion, I may point out that

Sarotes badius L. K. becomes *Heteropoda badia* L. K.

?=*S. malayanus* Dol. (Thor. *l. c.* p. 277).

Heteropoda badia L. K. becomes *Sparassus badius* L. K.

?=*S. mygalinus* Dol. (Thor. *l. c.* vol. ii. p. 189).

Heteropoda hæmorrhoidalis L. K. becomes *Sparassus hæmorrhoidalis* L. K.

Sparassus hæmorrhoidalis Thor. would therefore require a new name if not *Neosparassus punctatus* L. K. (see Thor. *l. c.* vol. iii. p. 259).

From Thorell's description *S. mygalinus* may belong to *Neosparassus*, nov. gen.]

The species may be distinguished as follows :—

- A. Abdomen underneath whole-coloured, without any distinguishing markings.
- α^1 . Spines above on tibia iii. and iv.
- α^2 . On tibia iii. three spines, two on tibia iv. (*sec.* L. Koch) *jugulans* L. K.
- β^2 . On tibia iii. and iv. two spines (*sec.* L. K.) *longipes* L. K.
- β^1 . No spines above on tibia iv.
- α^3 . The median sulcus of cephalothorax short, not reaching down the rear slope (*sec.* L. Koch) *suspiciosus* L. K.
- β^3 . The median sulcus very long and reaching down the rear slope.
- α^4 . The front and rear middle eyes of equal size ... *procerus* L. K.
- β^4 . The rear middle eyes larger than the front middle *lycodes* Thor.
- B. The abdomen with distinct markings on the underside.
- α^5 . Two white stripes on a black shield *cervina* L. K.
- β^5 . No black shield.
- α^6 . Four narrow dark longitudinal lines; a two-toothed tibial spur on male palp *regia* Fabr.
- β^6 . A brown longitudinal stripe below genital fold... *keyserlingi*, nov. sp.

HETEROPODA JUGULANS (L. Koch).

Sarotes jugulans L. Koch, Die Arach. Austr. p. 852 (1876).

Heteropoda jugulans L. Koch, E. Simon, Rev. Spar. 1880, p. 49.

Peak Downs, Queensland. ♂.

HETEROPODA LONGIPES (L. Koch).

Sarotes longipes L. Koch, Die Arach. Austr. p. 660 (1875).

Heteropoda longipes (L. Koch), E. Simon, l. c. p. 49.

Sarotes longipes L. Koch, H. R. Hogg in Horn Exped. pt. ii. Zool. p. 339.

Sydney, N.S.W.; ♂ (*Bradley*). Victoria (E. Simon Coll.). Alice Springs, Central Australia (Horn Expedition); ♀.

HETEROPODA SUSPICIOSA (L. Koch).

Sarotes suspiciosus L. Koch, l. c. p. 665.

Heteropoda suspiciosa L. Koch, E. Simon, l. c. p. 50.

Upolu (*L. Koch*); Rockhampton (*L. Koch*); Newcastle (N.S.W. Mus.); Victoria (*E. Simon*).

HETEROPODA PROCERA (L. Koch).

Ocyptete procera L. Koch, Verh. zool.-bot. Ges. Wien, p. 205 (1869).

Sarotes procerus L. Koch, Die Arach. Austr. p. 667 (1875).

Sarotes procerus L. Koch, F. Karsch in Zeitschr. ges. Nat. 1878, vol. ii. p. 792.

Heteropoda procera L. Koch, E. Simon, l. c. p. 50.

Bowen, Brisbane, Sydney (*L. Koch*); Adelaide (*Karsch*).

HETEROPODA LYCODES Thor.

Heteropoda lycodes Dr. T. Thorell, Ragni Mal. vol. iii. 1881, p. 282.

Cape York.

The co-types in the British Museum of this and *H. cyanognatha* Thor., from Yule Island, are not quite adult, but are undistinguishable from one another.

The measurements in millimetres are as follows:—

		Long.	Broad.		
Cephalothorax ...		6	} 3 in front. 5		
Abdomen		8		5	
Mandibles		3 = front patella.			
			Pat. & tib.	Metat. & tars.	
Legs	1.	Coxæ. 2	Tr. & fem. 7	8	7 = 24
	2.	2	7½	9	7½ = 26
	3.	2	6	7	6 = 21
	4.	2	7	7	7 = 23
Palpi.....	1		2½	2½	3½ = 9½

HETEROPODA CERVINA (L. Koch).

Sarotes cervinus L. Koch, Die Arach. Austr. p. 673.*Heteropoda cervina* L. Koch, E. Simon, l. c. p. 50.

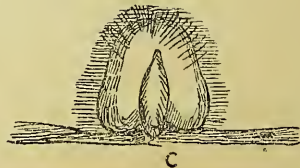
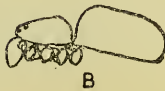
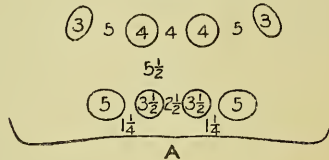
Rockhampton, Port Mackay, Bowen, Sydney (L. Koch); Peak Downs (Keys).

HETEROPODA REGIA (Fabr.).

Aranea venatoria Linn. Syst. Nat. edit. xii. p. 1035 (1758).*Aranea regia* Fabr. Ent. Syst. ii. p. 408.*Heteropoda venatoria* Linn., Dr. T. Thorell, Rag. Mal. ii. 1878, pp. 191, 205, iii. 1881, p. 274.*Heteropoda venatoria* Linn., E. Simon, Rev. Spar. 1880, p. 48.*Heteropoda regia* Fabr., E. Simon, Hist. Nat. des Ar. 1897, p. 54.

All tropical and sub-tropical regions.

Text-fig. 85.*

*Heteropoda keyserlingi*.

A, eyes of female; B, profile; C, epigyne.

HETEROPODA KEYSERLINGI, nov. sp. (Text-fig. 85.)

The cephalothorax is a rich reddish brown, with a curved brown patch around the rear slope; mandibles red-brown, with long pale brown bristles. Lip and maxillæ paler reddish brown, with dark brown hair on outer side of latter. Sternum orange with brown hair. Legs and palpi bright yellow-brown underneath, rather redder on upper side. Abdomen orange mottled with brown, a brown irregular patch in front; underneath paler orange, with a well-defined brown stripe from below the genital fold nearly to the spinnerets.

The cephalothorax is steep at the rear slope, thence runs in a straight slope to the eyes, rather narrow in front.

The front row of eyes is slightly recurved, the median pair

* The figures inserted in the diagrams of eyes represent tenths of millimetres.

two-thirds diameter apart and one-third from the laterals, which are one and a half times the diameter of the former. The rear row, also recurved, has the median pair one diameter apart, slightly larger than the front median, one and a quarter diameter from laterals, which are as large as the front laterals, and about the same distance from front median. The clypeus equals the diameter of the front side-eyes.

There are four teeth on the lower edge of the falx-sheath and three on the upper.

There are two spines on the upper side of metatarsi iii. and iv., and a scopula to the base of the metatarsi on all legs.

The *abdomen* is oval, sparsely covered with short thin down-lying hair.

The *epigyne* is a chitinous oval frame, the median portion narrow anteriorly and widening to the base, completely filled with a long convex fold of tissue much larger than in *L. Kochi* drawing of *H. cervina*.

The measurements in millimetres are as follows:—

	Long.	Broad.
Cephalothorax ...	8	{ 4 in front. 7½
Abdomen	12	8
Mandibles	4 (longer than patella i.).	

	Coxa.	Tr. & fem.	Pat. & tib.	Metat. & tars.		
Legs	1. 3½	9	10	9	=	31½
	2. 3½	9	11	9½	=	33
	3. 3	8	9	8½	=	28½
	4. 3	9	9	9	=	30
Palpi.....	1½	4½	4½	4½	=	15

Two females from Peak Downs, Queensland, in Keyserling Coll., Brit. Mus., marked *H. cervina*.

Genus PANDERCETES.

Pandercetes L. Koch, Ar. Austr. 1875, p. 739; Thor., Ragni Malesi, 1881, p. 309; E. Simon, Hist. Nat. des Ar. vol. ii. p. 56 (1897).

Type, *P. gracilis* L. Koch.

PANDERCETES GRACILIS L. Koch, *loc. cit.* p. 740.

Described by L. Koch from male from Port Mackay, Queensland.

Thorell doubtfully ascribes to this species a male from Cape York (d'Albertis Coll.), and from same collection has two species—*P. isopus* from N. Guinea, and *P. longipes* from Jobi Island, on N. coast of same.

The male of *Pandercetes gracilis* L. K. has (*sec.* L. Koch and E. Simon) a long twisting flagellum on palp, but no supporting stylus or drum.

Group PALYSTÆ.

The group *Palystæ* is represented by *Palystes* only.

Genus PALYSTES L. Koch.

Helicopsis L. Koch, Die Arach. Austr. i. p. 495 (1874).

Palystes L. Koch, Die Arach. Austr. vol. ii. p. 701 (1875);
E. Simon, Rev. Spar. 1880, p. 42, et Hist. Nat. des Ar. vol. ii.
p. 65 (1897).

Type species, *Palystes castaneus* (Latr.) (*P. frenatus* L. Koch).

PALYSTES IGNICOMUS L. Koch (*loc. cit.*).

Described from a female from New Ireland, east of N. Guinea.

In the British Museum are a male and female, brought by Mr. A. Willey from New Britain (same locality), doubtless the same as L. Koch's, and a female (Keyserling Coll.) from Brisbane, the latter not quite adult.

Of the former pair the female is much richer in colouring, pale yellow stripes on darker ground down the sides of the abdomen and two round black spots on back, with pale yellow spot in between. Underneath the deep orange femora are dark brown stripes reaching from the anterior end two-thirds of the distance to posterior end; a dark brown shield on the underside of abdomen below the genital fold.

The male, which is smaller, is uniformly pale orange and without any shield; the legs are much thinner, but nearly as long as those of the female.

In both specimens the front side-eyes are much larger than and touch the middle pair, which are half their diameter apart. Eyes all pale orange.

In the Brisbane specimen, which I first thought must be different, the colouring is not so deep, the dark stripes underneath femora are absent as in male above, and the abdominal shield much fainter. The rear row of eyes also is slightly procurved, in the others straight.

I append measurements (in millimetres) of all three:—

		Female (N. Ireland).					
		Long.	Broad.				
Cephalothorax	...	12	$\left\{ \begin{array}{l} 6\frac{1}{2} \text{ front.} \\ 10 \end{array} \right.$				
Abdomen	.....	14	9				
Mandibles	.....	5	= pat. i.				
		Coxæ.	Tr. & fem.	Pat. & tib.	Metat. & tars.		
Legs	.....	1.	4 $\frac{1}{2}$	15	18	16 $\frac{1}{2}$	= 54
		2.	4 $\frac{1}{2}$	15	17	15	= 51 $\frac{1}{2}$
		3.	4	11 $\frac{1}{2}$	12 $\frac{1}{2}$	11 $\frac{1}{2}$	= 39 $\frac{1}{2}$
		4.	4	13 $\frac{1}{2}$	13 $\frac{1}{2}$	13 $\frac{1}{2}$	= 44 $\frac{1}{2}$
Palpi	.....	2	5	5 $\frac{1}{2}$	4		= 16 $\frac{1}{2}$

		Male.						
		Long.	Broad.					
Cephalothorax ...		8	{ 4 7					
Abdomen		8½	5					
Mandibles		3½	=less than front pat.					
		Coxæ.	Tr. & fem.	Pat. & tib.	Metat. & tars.			
Legs	1.	3	14½	18½ (5, 13½)	17	=	53	
	2.	3	14½	17	17	=	51½	
	3.	3	11	11	10	=	35	
	4.	3	13	13	13	=	42	
Palpi		1½	5	5	4	=	15½	

Female (Brisbane).

		Long.	Broad.					
Cephalothorax ...		12	{ 7 10					
Abdomen		13	9					
Mandibles		5						
		Coxæ.	Tr. & fem.	Pat. & tib.	Metat. & tars.			
Legs	1.	4	14½	18½	18	=	55	
	2.	4	14	18½	16½	=	53	
	3.	4	11	12½	12	=	39½	
	4.	4	13½	14½	14½	=	46½	
Palpi		2	5	6	5	=	18	

Group DELENEÆ.

I adopt *Delena* as the type genus of a group in preference to leaving the Australian genera incorporated with M. Simon's *Sparassee*, because the former genus exhibits the most complete type of differentiation both in its flattened form and in the Australian type of male palp. By the latter point these genera and *Neosparassus* are, as far as we have seen the males, entirely distinguishable from the type species of the genus *Sparassus* Walck. (*S. argelasius* of Southern Europe), so that for the Australian members of that genus I have established the new genus *Neosparassus*. To this, provisionally, I transfer those forms recently classed as *Sparassus*, but, until all the males have been proved to conform to it, its limits cannot be accurately defined, and it further remains a moot point whether any boundary-line can be drawn between it and *Isopeda*. The species at present associated with the genus will be those ascribed by L. Koch to *Heteropoda*, as above stated, erroneously. *Neosparassus diana* L. K. is a good representative of the genus. Through *N. salacius* L. K. it runs very closely into *Isopeda* L. K.

The latter genus, while very constant in the respective sizes of

its eyes as well as in the form of the male palp and epigyne of the female, has almost every intermediate gradation between a moderately curved and quite flat cephalothorax. The two undoubted species of *Holconia* Thor., *H. immanis* and *H. insignis*, differ from *Isopeda* solely in being the extreme representatives of the series in flatness of the cephalothorax, while in structural features they are otherwise undistinguishable. In the only specimens I can find to attribute to L. Koch's *H. dolosa*, the cephalothorax is not even noticeably flat, and a northern species, *H. subdola* Thorell, is only very doubtfully attributed by him thereto. I have therefore amalgamated the genus with *Isopeda* L. K.

In all the genera except *Pediana* the median eye-area is at least not longer than broad, generally distinctly broader, but in the latter it is longer than broad. For this reason, although the rear row of eyes is clearly procurved, it has been included by M. Simon among the *Heteropodeæ*. *Isopeda horni* mihi belongs to this genus, and two new species from Western Australia bring the number of its members to four. I have not been able to obtain a male of any of my species; but the epigyne of the female is so distinctly of the *Isopeda* type, that it appears more probable than not that all the males will prove to be provided with a spiral flagellum and drum, and this is the case in *P. regina*, the type species, as described by Thorell. The first and second pairs of legs are nearly equal in length, and in the larger species are barely Laterigrade in mode of setting. The eye-space is raised up all round, and, although worthy of a distinctive genus, where it diverges from *Isopeda* it does so almost more in the direction of *Mithurga* Thor. than towards *Heteropoda* Latr.

Its beard alone could hardly, I think, entitle *Typostola* E. Sim. to rank as a separate genus, but the shortness of the palpal spiral distinguishes it from all the species of *Isopeda*, where the number of turns is generally about ten, but here only three.

A primitive *Delena* from King's Island (Bass's Straits), in which the spiral is quite rudimentary, both stylus and conductor making only a single turn, and the tibial apophysis is single instead of double, also necessitates a new genus. Except in its smaller size, it is otherwise scarcely distinguishable from *Delena cancerides* Walck., and clearly suggests the direction along which the present modification has been derived.

The genera may be separated as follows:—

- A. The middle eyes of the front row much nearer to one another than to the side-eyes, and clearly larger than the latter. Cephalothorax very flat and low. Pars cephalica divided from the thoracic part by deep impressions, forming an acute angle.
- a*¹. Spiral of male palp having about ten convolutions. A double apophysis on anterior end of tibial joint *Delena* Walck. (7)
- a*². Spiral of male palp with only one convolution. Apophysis at anterior end of tibial joint single only *Eodelena*, nov. gen. (6)

- B. Eyes of front row differing slightly or not at all in relative distance. The side-eyes generally not smaller than the median.
- b*¹. Median eye-space clearly longer than broad ... *Pediana* E. Sim. (2)
- b*². Median eye-space not longer than broad.
- b*³. Cephalothorax clearly convex, generally set on to the abdomen at an angle so that the anterior portion is higher than the rear. Clypeus at least as broad as the front middle eyes *Neosparassus*, nov. gen. (1)
- b*⁴. Cephalothorax flat on the top or only slightly convex, set on to the abdomen so that the front and rear portions are about level. Clypeus generally not so wide as front middle eyes.
- b*⁵. Cephalothorax longer than broad..... *Zachria*. (3)
- b*⁶. Cephalothorax not longer than broad.
- b*⁷. Inner side of mandibles and outer side of maxillæ covered with thick mat of hairs, many of which are bifid *Typostola* E. Sim. (5)
- b*⁸. Having no special mat, but long hairs thinly covering the whole surface of the mandibles and maxillæ (except *I. vasta*). *Isopeda* L. Koch. (4)

Genus NEOSPARASSUS, nov.

Heteropoda L. Koch, Ar. Austr. 1875 (non Latr.).

Heteropoda F. Karsch, Zeitschr. f. ges. Naturwiss. 1878, p. 809, ad partem *H. patellata*.

Sparassus T. Thorell, Ragni Austro-Malesi, 1881, notes pp. 255, 274 (at least in part).

Sparassus E. Simon, Rev. Spar. (Actes Linn. Soc. Bordeaux, 1880); id. Hist. Nat. des Ar. vol. ii. p. 46 (1897) (in part).

Of the genera included in the group *Delenece* the members of this genus come nearest to *Heteropoda* Latr., with which they were included by L. Koch. Neither the cephalothorax nor abdomen show any signs of compression; the coloration and patterns are often vividly bright and varied, and the patterns of the female vulva are of rather diversified form, though roughly a sunken area, more or less divided longitudinally by a wedge-shaped ridge, enclosed in a chitinous frame. The male palps, however, in all the species of which I have been able to obtain specimens, are of the spiral conductor and flagellum type, more or less elaborated and varying from two or three spirals in *N. calligaster* Thor. and *N. diana* L. K., to nine or ten in *N. salacius* L. K.

The *cephalothorax* is generally high, the highest point of the curve being between the eye-space and middle of cephalothorax, thence sloping posteriorly, and in this differs from *Heteropoda* Latr., where L. Koch placed the species. Owing, however, to the angle at which the cephalothorax is often set on to the abdomen, the front part appears more prominent than it really is with respect to the plane of its legs.

Besides the palpal difference from the type species of *Sparassus*, they differ in having legs in order 2 1 4 3, instead of 4th longer

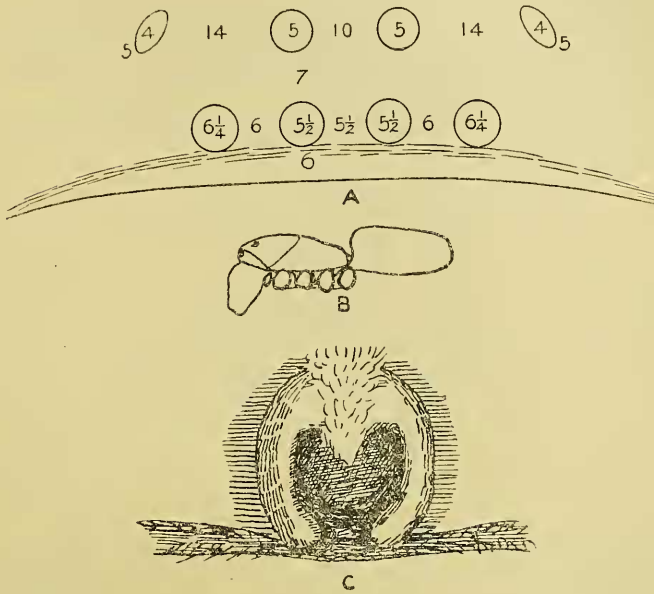
than 1st, and in not having the cephalothorax highest in posterior third. The front side-eyes are generally not larger than the median. Until we know the males of all the species now included provisionally, for which a good deal more collecting is required, we cannot settle the whole of the species for certain.

The species may be distinguished as follows:—

- A. Side-eyes of front row larger than median.
 Abdomen above and below pale yellow, with very fine hairs..... *magareyi*, nov. sp.
- B. Side-eyes of front row not larger than median.
- a¹. Side-eyes of front row smaller than median.
- a². Abdomen underneath whole-coloured, without special markings.
- a³. Abdomen twice as long as broad, a longitudinal median dark stripe the whole length of back (*sec.* L. Koch) *macilentus* L. K.
- b³. Abdomen at most 1½ times as long as broad, without the longitudinal median stripe above (*sec.* L. Koch) *pallidus* L. K.
- b². Distinct markings on underside of abdomen.
- a⁴. Shield-pattern behind epigyne
- a⁵. black, with two white longitudinal stripes thereon (*sec.* L. Koch) *pictus* L. K.
- b⁵. reddish brown, darker anteriorly, bounded by pale brown border all round. Cephalothorax highest posteriorly *thoracicus*, nov. sp.
- b⁴. No black shield behind epigyne,
- a⁶. but an orange-yellow transverse stripe (*sec.* L. Koch) *præclarus* L. K.
- b⁶. Underside of abdomen dark orange-yellow; in front of the spinnerets a broken transverse band of yellowish-white hair *rutilus* L. K.
- c⁶. Longitudinal brown median stripe on pale yellow ground from middle of back to spinnerets; irregular small dark brown spots on underside..... *inframaculatus* Hogg.
- b¹. Eyes of front row of equal size.
- a⁷. Eyes of front row equidistant.
- a⁸. Median sulcus wanting on cephalothorax *festivus* L. K.
- b⁸. Median sulcus clearly defined.
- a⁹. On the underside of abdomen no black field, a¹⁰. but two brighter longitudinal stripes..... *hæmorrhoidalis* L. K.
- b¹⁰. four brighter longitudinal stripes *incontus* L. K.
- b⁹. On the underside of abdomen a black field,
- a¹¹. with two white longitudinal stripes or spots.
- a¹². Inside the black field two white longitudinal stripes and a black stripe at base of abdomen on underside *diana* L. K.
- b¹². The two white longitudinal stripes, one each side, but outside the black field ? *pictus* L. K., var., or [n. sp.]
- b¹¹. No white spots accompanying the black field.
- a¹³. The black field reaching two-thirds of way down *calligaster* L. K.
- b¹³. A straight black stripe halfway down on orange ground (*sec.* Karsch) *patellatus* Karsch.
- c¹³. The black field broken in the middle transversely, thus forming two *salacius* L. K.
- b⁷. The front middle eyes farther from the side-eyes than from one another.
- a¹⁴. On the underside of the abdomen a black longitudinal field reaching to the spinnerets, but separated transversely in the middle (*sec.* L. Koch)..... *conspicuus* L. K.

- b¹⁴. On the underside of the abdomen the black field reaching only two-thirds of distance to spinnerets, and bordered by two white lines (*sec. L. Koch*) *punctatus* L. K.
 c¹⁴. Two white longitudinal stripes on the underside, without a black field (*sec. L. Koch*) *nitellinus* L. K.

Text-fig. 86.



Neosparassus magareyi.

A, eyes; B, profile; C, epigyne.

NEOSPARASSUS MAGAREYI, nov. sp. (Text-fig. 86.)

Cephalothorax dull red-brown, darker in eye-space, light yellow hair; mandibles black-brown, yellowish-white bristles; lip and maxillæ dark red-brown, light red fringes; sternum orange-brown, light orange hair; legs and palpi bright yellow-brown darkening towards extremities, light yellowish bristly hair; abdomen pale greenish yellow all over, rather thickly covered above with stout pale yellow hair, underneath finer and yellower; spinnerets yellow; epigyne brown; the femora underneath are yellow mottled with brown spots; the tibia yellow and brown, alternate bands.

The cephalothorax is 1 mm. broader than long, broad and truncate anteriorly, rising from the eye-space to nearly halfway, thence sloping posteriorly, the transverse section rises rather abruptly, fovea slight. The mandibles are long and powerful, longer than front patella, and thickly covered with long hair.

The front row of *eyes* is slightly procurved, the medians one diameter apart and slightly more from the side-eyes, the same from the margin of the clypeus, and more still than that from the rear median. The front side-eyes are clearly larger than the median. The rear row of eyes are equal and a little smaller than the front median, the middle pair two diameters apart and nearly three from the side.

On the underside of the falx-sheath are two very large, one median and one small tooth, one large and one small on upperside.

The *legs* are rather stout, and furnished with long and powerful spines on tibia iii. and iv., one each.

The *abdomen* is ovate, broadest one-third distance from front and tapering to spinnerets.

Measurements in millimetres.

	Long.	Broad.					
Cephalothorax ...	14	$\left\{ \begin{array}{l} 9\frac{1}{2} \text{ in front.} \\ 13 \end{array} \right.$					
Abdomen	15	12					
Mandibles	7						
		Coxæ.	Tr. & fem.	Pat. & tib.	Metat. & tars.		
Legs	1.	5	15	17	16	=	53
	2.	5	16	18	17	=	56
	3.	4	13	13	12	=	42
	4.	$4\frac{1}{2}$	14	14	14	=	$46\frac{1}{2}$
Palpi	2	6	5	5	5	=	18

Numerous females, but no males, brought from the Northern Territory of S. Australia by Dr. Magarey in 1880. One female, and one male not fully developed, in Brit. Mus. from Port Stephen.

NEOSPARASSUS THORACICUS, nov. sp. (Text-fig. 87.)

This powerful spider I provisionally include in this genus, with which and with *Theleticopis* and *Isopeda* it has analogies, but differs in the shape of the cephalothorax; I think it ought to have a new genus but that it partially links the others.

The cephalothorax is red-brown, black-brown in front; mandibles, lip, and maxillæ black-brown, sternum and coxæ bright red-brown; legs and palpi somewhat darker, with long brown hair; the abdomen dark brown above and below.

The *cephalothorax* rises steeply from the sides, is highest posteriorly and slopes forwards to the eye-space, it is 2 mm. longer than broad and broadly truncate in front.

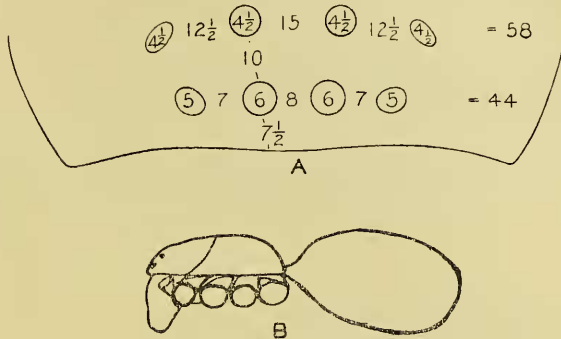
The front median *eyes* are about $1\frac{1}{2}$ diameters apart, rather more from the rear median, one diameter from the laterals, which are clearly smaller. The clypeus is wider than the front median eyes. The rear row is procurved, the median eyes wider apart than from the laterals, which are about the same size as the front laterals, the median somewhat smaller.

The *mandibles* are long and stout.

The *abdomen* is oval, but the specimen is dried and it is stuffed with wool, and so the epigyne is destroyed. It is rather closely covered with thick short hair.

The *legs* are very stout, and altogether it is a formidable species.

Text-fig. 87.

*Neosparassus thoracicus*, ♀.

A, eyes; B, profile.

Measurements in millimetres.

	Long.	Broad.				
Cephalothorax ...	18	$\left\{ \begin{array}{l} 10 \\ 16 \end{array} \right.$				
Abdomen	22	17				
Mandibles	8					
		Coxæ.	Tr. & fem.	Pat. & tib.	Metat. & tars.	
Legs	1.	6	17	22	20	= 65
	2.	6	18	23	21	= 68
	3.	$5\frac{1}{2}$	$15\frac{1}{2}$	$16\frac{1}{2}$	$14\frac{1}{2}$	= 52
	4.	$5\frac{1}{2}$	16	17	17	= $55\frac{1}{2}$
Palpi		$3\frac{1}{2}$	7	$8\frac{1}{2}$	6	= 25

One dried female in Brit. Mus. from N. Australia.

NEOSPARASSUS MACILENTUS (L. Koch).

Heteropoda macilenta L. Koch, Arach. Austr. vol. ii. p. 711.

One female from Bowen.

L. Koch thinks this should possibly be included in the genus *Isopeda*.

NEOSPARASSUS PALLIDUS (L. Koch).

Heteropoda pallida L. Koch, loc. cit. p. 713.

One male from Peak Downs.

NEOSPARASSUS PICTUS (L. Koch).

Heteropoda picta L. Koch, *loc. cit.* p. 714.Australia (*L. Koch*). ? Var. Dimboola, Victoria (*Hogg*); ♀.
? Adelaide and West Australia (*Karsch*).

NEOSPARASSUS PRÆCLARUS (L. Koch).

Heteropoda præclara L. Koch, *loc. cit.* p. 723.

Rockhampton and Gayndah; ♂ & ♀.

NEOSPARASSUS RUTILUS (L. Koch).

Heteropoda rutila L. Koch, *loc. cit.* p. 729.

Bowen; ♀.

NEOSPARASSUS INFRAMACULATUS (Hogg).

Heteropoda inframaculata Hogg, Rep. Horn, Exp. vol. ii. Zool.
p. 343.

Central Australia.

NEOSPARASSUS FESTIVUS (L. Koch).

Heteropoda festiva L. Koch, *loc. cit.* p. 710.

Sydney; female undeveloped.

NEOSPARASSUS HÆMORRHOIDALIS (L. Koch).

Heteropoda hæmorrhoidalis L. Koch, *loc. cit.* p. 726.

Sydney; female undeveloped.

NEOSPARASSUS INCOMTUS (L. Koch).

Heteropoda incomta L. Koch, *loc. cit.* p. 727.

Sydney; ♀.

NEOSPARASSUS DIANA (L. Koch).

Heteropoda diana L. Koch, *loc. cit.* p. 730.

The male palpal spiral has about three turns. For the type of my new genus I have taken this very beautifully coloured species, or at any rate the specimens in my collection which I identify as *N. diana* (*L. Koch*).

Macedon, Dimboola, Victoria; Adelaide; Perth.

Widely distributed over the whole of the southern half of Australia.

NEOSPARASSUS CALLIGASTER (Thor.).

Heteropoda calligaster Thorell, Ar. nonnullæ Nov. Holl., Öfv. K. Vet.-Akad. Förh. 1870, no. 4, p. 385; L. Koch, Die Arach. Aust. p. 734.

Peak Downs, Queensland; Sydney, N.S.W. (*Koch*); Dimboola, Victoria (*H. R. H.*); Adelaide (*Karsch*).

NEOSPARASSUS PATELLATUS (Karsch).

Heteropoda patellata F. Karsch, Zeit. ges. Naturw. Berlin, vol. li. 1878, p. 809.

Sec. Karsch, near the above-named *N. calligaster* (Thor.); but without any special distinction is a little doubtful.

Loc. Tasmania.

NEOSPARASSUS SALACIUS (L. Koch).

Heteropoda salacia L. Koch, Die Arach. Aust. p. 737.

Sparassus salacius Thorell, Rag. Mal. vol. iii. 1881, p. 255.

This rather large species has a broad transverse black band in front of spinnerets as well as shield behind genital fold. The male palp flagellum has 10 spirals; and although the species is brightly coloured (yellow and black) like a *Sparassus*, it has very little to differentiate it from *Isopeda*.

Cape York; Rockhampton; Bowen; Peak Downs; Sydney; Upper Endeavour River, Queensland (*Hogg*).

NEOSPARASSUS CONSPICUA (L. Koch).

Heteropoda conspicua L. Koch, Die Arach. Aust. p. 717.

Bowen; ♀.

NEOSPARASSUS PUNCTATUS (L. Koch).

Sparassus punctatus L. Koch, Besch. n. Ar. & Myr., Verh. k.-k.-zool.-bot. Ges. Wien, 1865, p. 872.

Heteropoda punctata L. Koch, Die Arach. Aust. p. 719.

Sparassus punctatus Thor. Rag. Mal. vol. iii. 1881, p. 259.

Cape York (*Thor.*); Bowen, Port Mackay, Wollongong, Rockhampton, Peak Downs, Sydney (*L. Koch*); Dimboola, Victoria, Central Australia (*Hogg*).

NEOSPARASSUS NITELLINUS (L. Koch).

Heteropoda nitellina L. Koch, Die Arach. Aust. p. 722.

Peak Downs; ♀.

Genus ISOPEDA L. Koch.

Isopeda L. Koch, Die Arach. Austr. vol. ii. p. 678 (1875).

Voconia Thor. Araneæ nonnullæ Nov. Holl., in Öfv. Kongl. Vet.-Ak. Förh. 1870, no. 4, p. 383.

Holconia Thor. Rag. Mal. e Pap. vol. i. 1877, note p. 145.

Isopoda Thor. Rag. Mal. e Pap. vol. iii. 1881, note p. 293.

Isopoda E. Simon, Rev. Sparass. 1880.

Holconia E. Simon, Hist. Nat. des Ar. vol. ii. p. 44.

Type species, *Isopeda vasta* L. Koch.

This genus, both in number of specimens as a whole as well as of species (or subspecies), is by far the most largely represented of the group in Australia. Its limitations are not very clearly defined, but certainly include Thorell's genus *Holconia*. It would

appear to have been developed in Australia proper, and few of its members have strayed away therefrom.

The whole of its species have the male palpal spiral in its most fully developed form with about 10 spirals.

The *cephalothorax* is set on straight with the body; in altitude it is generally less than any member of the preceding genera, and in profile varies from a continuous curve highest about the middle to a flat surface. The latter form comprises two, or perhaps three, species hitherto known as *Holconia* (*Voconia*) Thor., but which, except for the flatter cephalothorax and consequently lower clypeus, differ in no particular from the rest of the *Isopoda*. Thorell himself was doubtful how to place his northern form, *H. subdola* Thor.; and in the only specimens I have seen to attribute to *H. dolosa* L. Koch, the cephalothorax is quite as normally rounded as many other species of *Isopoda*.

In a few instances the eyes of the front row, which is straight or slightly procurved, are all equal, but more generally the laterals exceed the median in diameter in the proportion of about 5 to 4. The rear row is also straight or slightly procurved, about a third longer than the front row, the rear median eyes always smaller than any of the others, and either rather nearer together than they are from the lateral, or equidistant.

The median eye-square is broader than long.

The cephalothorax is as broad as or broader than long and straight in front, where it is generally about two-thirds the greatest width. The legs always in the proportion 2 1 4 3.

NOTE.—The name *Isopoda* L. Koch has given rise to some discussion at various times in consequence of its being certainly wrongly formed from the Greek. Thorell and Simon set it down to a *lapsus calami* and boldly write *Isopoda*, but L. Koch uses his original form a score of times (and never any other) within a few pages of *Heteropoda*, also used by him over and over again. It certainly was no *lapsus calami* but deliberately intended. He probably knowingly spelt it wrongly to avoid clashing with the order of Crustacea *Isopoda*. The name is altogether a misnomer as applied to this genus, for no two pairs of legs of any of the species are alike in length.

The only species which had two pairs of legs (i. and ii.) of equal length has been removed to a new genus (*Pediana* E. Sim.), though for other reasons.

Synopsis of Genus Isopoda L. Koch.

Females.

A. Sternum deep jet-black.

A¹. Underside of abdomen whole-coloured, without any transverse dark stripe behind the genital fold.

a¹. Eyes of front row equidistant.

a². Distinguishable markings on back of abdomen.

a³. Three pairs of dark spots on whole-coloured back of abdomen; coarse hair on abdomen, rather coarse on cephalothorax; cephalothorax longer than tibia i.

frenchi, nov. sp.

- b*³. No spots, dark brown median scolloped stripe on back, fine hair on cephalothorax and abdomen; cephalothorax equal tibia i. in length. *leishmanni*, nov. sp.
- b*². No distinguishable markings on whole-coloured back of abdomen.
- a*⁴. No spines on upperside of tibia iii. or iv.
- a*⁴. A brown and yellow impressed shield-pattern on underside of abdomen..... *montana*, nov. sp.
- b*⁴. No shield pattern, darker and lighter mottlings (*sec. L. Koch*) *conspersa* L. K.
- b*⁴. One spine on upperside of tibia iii., none on iv.; no pattern on underside of abdomen. *pococki*, nov. sp.
- b*¹. Median eyes of front row nearer to side-eyes than to one another.
- a*⁵. Median eyes of rear row nearer to one another than to laterals; two spines on tibia iii. above, one on tibia iv. *tepperi*, nov. sp.
- b*⁵. Eyes of rear row equidistant; one spine each on tibia iii. and iv. (*sec. L. Koch*) *flavida* L. K.
- B**. A black transverse band behind the genital fold.
- a*⁶. Front median eyes less than their diameter from those of rear row *leai*, nov. sp.
- b*⁶. Front median eyes *not* less than their diameter from those of the rear row.
- a*⁷. Eyes of front row equal and equidistant.
- a*⁸. Mandibles bare in front; one spine above on tibia iii. *vasta* L. K.
- b*⁸. Mandibles more or less clothed with hair.
- a*⁹. Dark spot in front of abdomen; one spine on tibia iii. above *pengellya*, nov. sp.
- b*⁹. A scolloped longitudinal stripe on back; two spines on tibia iii. above, none on tibia iv. *saundersi*, nov. sp.
- a*⁹. No pattern on back; two spines on tibia iii. above, one on tibia iv. *ardrossana*, nov. sp.
- b*⁷. Eyes of front row not equidistant.
- a*¹⁰. Median eyes of front row nearer to side than to one another; one spine above on tibia iii. *pessleri* ? Thor.
- b*¹⁰. Median eyes of front row nearer to one another than to side.
- a*¹¹. No spines on tibia iii. or iv. above; four pairs of spots on back, median pairs joined *villosa* L. K.
- b*¹¹. One spine on tibia iii. above, none on iv.; no marks on back *tietzi*, nov. sp.
- B**. Sternum red-brown or yellow-brown or at least not black.
- a*¹². Cephalothorax convex or at least slightly raised behind the eye-space and sloping posteriorly.
- a*¹³. Median eyes of front row clearly farther from the side-eyes than from one another.
- a*¹⁴. Front median eyes their diameter apart and same distance from the rear median *robusta* L. K.
- b*¹⁴. Front median eyes $\frac{2}{3}$ diameter apart and full diameter from the rear median; three pairs of spots on back, median pair a longitudinal line *woodwardi*, nov. sp.
- b*¹³. Front row of eyes equidistant.
- a*¹⁵. The cephalothorax as long as tibia iv. (*sec. L. Koch*)..... *hirsuta* L. K.
- b*¹⁵. The cephalothorax longer than tibia iv.
- a*¹⁶. On femur i. in front four spines; cephalothorax about 3 mm. long (*sec. L. Koch*) ... *cordata* L. K.
- b*¹⁶. On femur i. in front three spines at most.
- a*¹⁷. Abdomen above clothed with long, stiff, bristly hair (spider very large) *aurea* L. K.
- b*¹⁷. Abdomen above clothed with fine hair only (*sec. L. Koch*) *flavibarbis* L. K.

- b*¹². Cephalothorax low, or if raised at sides, quite flat above.
- a*¹⁸. Front row of eyes straight or slightly procurved; eyes about equidistant.
- a*¹⁹. A dark stripe reaching from front of abdomen two-thirds of distance to rear; front and rear middle eyes not more than the diameter of front median apart *immanis* L. K.
- b*¹⁹. No dark stripe on back of abdomen but irregular darker transverse bands; front lateral eyes larger than median, front and rear median farther apart than diameter of front eyes *insignis* Thor.
- Doubtful species ... $\left\{ \begin{array}{l} \textit{dolosa} \text{ L. K.} \\ \textit{subdola} \text{ Thor.} \end{array} \right.$

Males.

- A. Sternum deep jet-black.
- A*¹. No transverse black band behind genital fold.
- a*¹. Eyes of front row equidistant, laterals larger than median.
- a*². No spines on tibia iii. or iv. *montana*, nov. sp.
- b*². Spines on tibia iii. at least.
- a*³. Two spines on tibia iii. above, one on iv. *leishmanni*, nov. sp.
- b*³. One spine on tibia iii. only; eyes black with orange rims *pococki*, nov. sp.
- b*⁴. Median eyes of front row about twice as far apart as they are distant from the laterals.
- a*⁴. Median eyes of front row less than their diameter apart; two spines above on tibia iii. and on tibia iv. *tepperi*, nov. sp.
- b*⁴. Median eyes of front row about one and a half diameters apart; pale green with black rims. One spine each on tibia iii. and iv. above *flavida* L. K.
- B*¹. A transverse black band behind genital fold.
- a*⁵. Eyes of front row equidistant, equal in size; mandibles bare in front. One spine on tibia iii. above *vasta* L. K.
- b*⁵. Eyes of front row not equidistant. Median eyes nearer to side-eyes than to one another.
- a*⁶. One spine above on tibia iii. and iv. *peessleri* Thor.
- b*⁶. Two spines above on tibia iii., one on iv. *tietzi*, nov. sp.
- B. Sternum not black—red or yellow-brown. No spines above on tibia iii. or iv. Front row of eyes equal and equidistant; front and rear median nearer to one another than diameter of front.
- a*⁷. No stripe on back *insignis* Thor.
- b*⁷. Longitudinal stripe on back *immanis* L. K.

ISOPEDA INSIGNIS (Thor.). (Text-fig. 88, A-C.)

Voconia insignis Thorell, Ar. nonnullæ Nov. Holl., Öfv. Kongl. Vet.-Akad. Förh. 1870, n. 4, p. 383.

Voconia insignis Thor., L. Koch, Arach. Austr. 1875, p. 645.

Holconia insignis Thor., E. Simon, Rev. Sparass. p. 25 (1880); Hist. Nat. d. Ar. 1897, vol. ii. p. 44.

This fine species except in the flatter cephalothorax, differs in no way from the rest of the *Isopeda*, and therefore I find no use for the genus *Holconia* Thor. as a distinction.

In the female the front lateral eyes are distinctly larger than the median, which are distant from the rear median not less than the breadth of their diameter, more often rather more. In the

males the front row eyes are equal and equidistant, about half their diameter apart, the median less than their diameter from the rear median.

The abdomen is bright yellow-brown above, with fine darker hair, sometimes forming a scalloped or transversely barred pattern; four pairs of muscle-spots not very clearly defined. The median pairs sometimes conjoined by a dark line.

It ranges over the southern half of the continent.

The following measurements in millimetres are from South Australian specimens:—

		Female.				
		Long.	Broad.			
Cephalothorax ...		15	$15\frac{1}{2}$			
Abdomen		24	$17\frac{1}{2}$			
Mandibles		7 shorter than front patella.				
		Coxæ.	Tr. & fem.	Pat. & tib.	Metat. & tars.	
Legs	1.	6	18	8, 14 (22)	20	= 66
	2.	6	21	27	24	= 78
	3.	6	16	16	16	= 54
	4.	6	16	16	16	= 54
Palpi.....		3	$6\frac{1}{2}$	$6\frac{1}{2}$	$6\frac{1}{2}$	= $22\frac{1}{2}$
		Male.				
		Long.	Broad.			
Cephalothorax ...		12	12			
Abdomen		$11\frac{1}{2}$	$9\frac{1}{2}$			
Mandibles		$4\frac{1}{2}$				
		Coxæ.	Tr. & fem.	Pat. & tib.	Metat. & tars.	
Legs	1.	$4\frac{1}{2}$	16	19	19	= $58\frac{1}{2}$
	2.	$4\frac{1}{2}$	$18\frac{1}{2}$	22	21	= 66
	3.	$4\frac{1}{2}$	15	$16\frac{1}{2}$	15	= 51
	4.	$4\frac{1}{2}$	15	$16\frac{1}{2}$	$16\frac{1}{2}$	= $52\frac{1}{2}$
Palpi.....		$2\frac{1}{2}$	5	4	4	= $15\frac{1}{2}$

Loc. New South Wales; Victoria; South Australia; West Australia.

ISOPEDA IMMANIS L. Koch. (Text-fig. 88, D, p. 434.)

Delena immanis L. Koch, Verh. z.-b. Ges. Wien, p. 208 (1867).

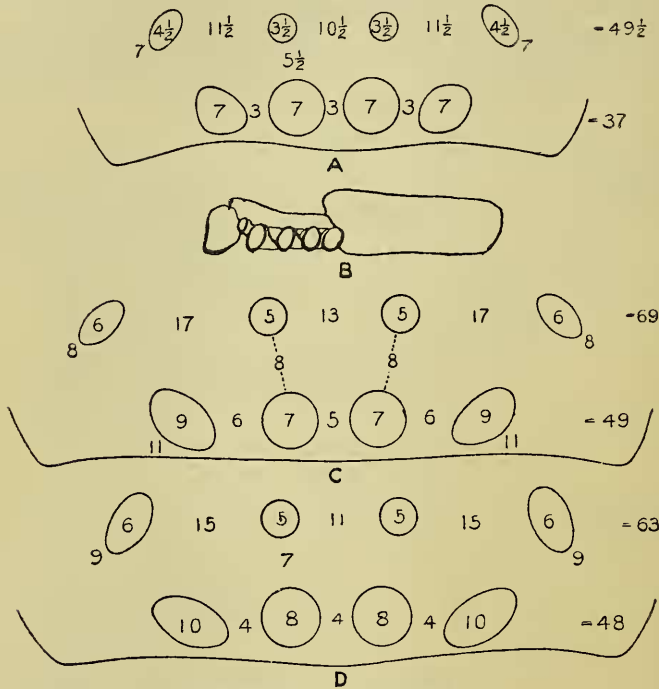
Voconia immanis L. Koch, Ar. Austr. 1875, p. 642.

Holconia immanis E. Simon, Rev. Spar. 1880, p. 26.

This is the northern form of the above, and, although Dr. Karsch quotes it from South and West Australia, out of a considerable number of specimens I have not myself seen one of *I. immanis* from the South, nor of *I. insignis* from the North of Australia. This form has a very characteristic dark stripe on the back of the abdomen, reaching from the front two-thirds of the distance to the rear. In other respects the two species differ very little. The distance between the front and rear median eyes in the

female is generally less than the diameter of the front median (as in the male), sometimes equal; the diameter of the front laterals varies from about equal to that of the median to $1\frac{1}{4}$ of same. The colour of the back varies from yellow-brown to dark grey.

Text-fig. 88.



Isopeda insignis and *I. immanis*.

A, eyes of male; B, profile; C, eyes of female of *I. insignis*.

D, eyes of female of *I. immanis*.

Female (J. J. Lister, S. Queensland).

		Long.	Broad.			
Cephalothorax ...		13	8 in front. 13			
Abdomen		24		17		
Mandibles		6 = less than front patella.				
		Coxæ.	Tr. & fem.	Pat. & tib.	Metat. & tars.	
Legs	1.	6	$16\frac{1}{2}$	21	19	= $62\frac{1}{2}$
	2.	6	19	25	21	= 71
	3.	6	$14\frac{1}{2}$	$16\frac{1}{2}$	15	= 52
	4.	6	$14\frac{1}{2}$	$16\frac{1}{2}$	15	= 52
Palpi		$2\frac{1}{2}$	5	5	5	= $17\frac{1}{2}$

Male (Keyserling Coll. in Brit. Mus.).

		Long.	Broad.			
Cephalothorax ...		13	13			
Abdomen		14	10			
Mandibles		6				
		Coxae.	Tr. & fem.	Pat. & tib.	Metat. & tars.	
Legs	1.	5	18	23 (7, 16)	22½	= 68½
	2.	5	21	27	25	= 78
	3.	5	14	18	16½	= 53½
	4.	5	14	18	18	= 55
Palpi.....		3	5	5	7	= 20

Loc. Queensland and New South Wales.

ISOPEDA DOLOSA L. Koch.

Voconia dolosa L. Koch, Arach. Austr. 1875, p. 648.

L. Koch described this species from two dried specimens in the Museum at Stuttgart, labelled "Australia" only. The differences by which he says it may be distinguished from *I. insignis* Thor., are that "the clearly smaller median eyes of the front row are more than their diameter from the rear median," and the joining by a dark longitudinal marking of the two median pair of muscle-spots on the back. The latter feature seems a by no means uncommon variation in any species, whenever the back spots are specially well developed, and the former is almost universally the case with females of *I. insignis* Thor. I have therefore great doubts as to it being really a separate species; if it is, the joining of the back spots is its only distinctive character. The Horn Expedition had several specimens from Central Australia, both male and female, with back-markings as described, very flat cephalothorax, but front row of eyes equal, and I have similar from Victoria, otherwise the same as *I. insignis*.

ISOPEDA SUBDOLA Thor.

Holconia subdola Thorell, Rag. Mal. e Pap. vol. iii. 1881, p. 304.

Thorell himself describes this as a doubtful species, the only difference from Koch's description of *H. dolosa* being in the coloration of the back of the abdomen,

From Cape York, N. Queensland.

ISOPEDA CONSPERSA L. Koch.

Ispeda conspersa L. Koch, Arach. Austr. 1875, p. 689.

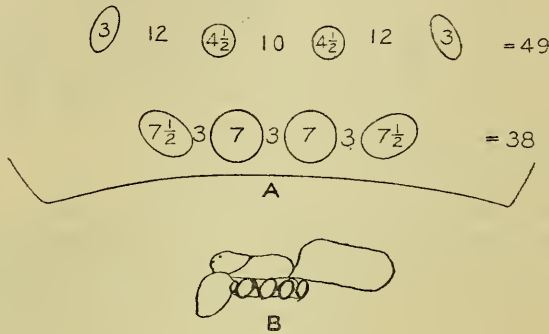
From Cape York.

ISOPEDA FRENCHI, nov. sp. (Text-fig. 89, p. 436.)

Female.—The cephalothorax is red-brown with yellow hair, the mandibles rather darker with bright red fringes. Lip and maxillæ black-brown. Sternum jet-black, with velvety-black hair

extending over nearly the whole of the coxæ. The abdomen is yellow-brown, somewhat lighter underneath, and three pairs of dark spots visible on upperside; four impressed longitudinal lines behind epigyne. Legs and palpi red-brown with yellow hair; a nearly black spot on the underside of tibiæ i. and ii. anteriorly, remainder silvery. Scopulæ grey.

Text-fig. 89.

*Isopeda frenchi.*

A, eyes of female; B, profile.

The *cephalothorax* in front is two-thirds its greatest width.

The front row of *eyes* is equal and equidistant, half a diameter from margin of clypeus. The distance between front and rear median greater than the diameter of front eyes. Rear median farther from the side-eyes than from one another.

On tibia iii. above are two spines, none on tibia iv.

The hair on the abdomen is somewhat coarse.

Measurements in millimetres.

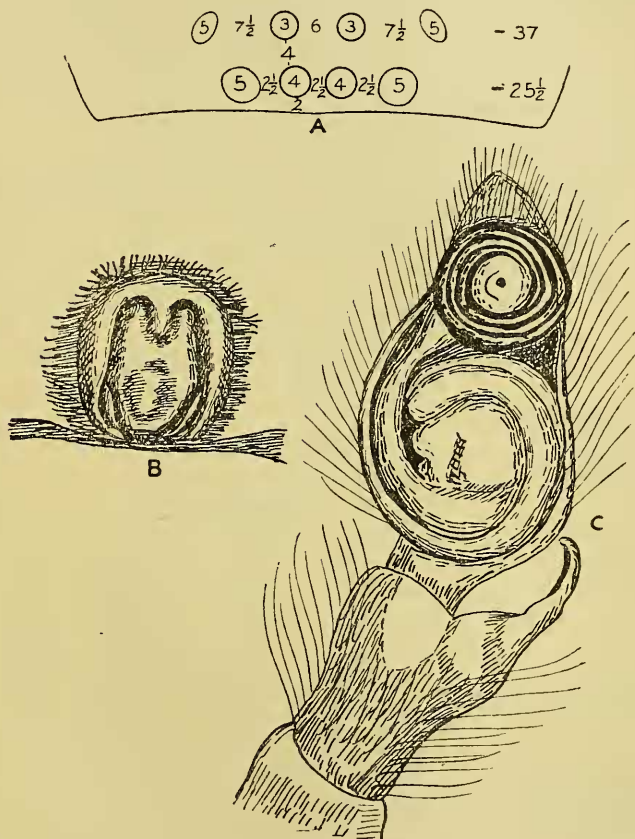
	Long.	Broad.				
Cephalothorax ...	11	$\left\{ \begin{array}{l} 6\frac{1}{2} \text{ in front.} \\ 11 \end{array} \right.$				
Abdomen	14	11				
Mandibles	5	= front patella.				
	Coxæ.	Tr. & fem.	Pat. & tib.	Metat. & tars.		
Legs	1.	5	12 $\frac{1}{2}$	13 $\frac{1}{2}$	13 $\frac{1}{2}$ =	44 $\frac{1}{2}$
	2.	5	13 $\frac{1}{2}$	15	13 $\frac{1}{2}$ =	47
	3.	5	10	11 $\frac{1}{2}$	10 =	36 $\frac{1}{2}$
	4.	5	11	11 $\frac{1}{2}$	11 $\frac{1}{2}$ =	39
Palpi.....	2	4 $\frac{1}{2}$	4 $\frac{1}{2}$	4 $\frac{1}{2}$	4 $\frac{1}{2}$ =	15 $\frac{1}{2}$

Three females and one undeveloped male from Dimboola, Victoria, I have named after Mr. C. French, Government Entomologist of Victoria, from whom I received them.

Three females in the South Australian Museum Collection from

Victoria have the same proportions, but there are no visible spots on the back, the sternum and coxæ are dark brown and not black, the hair on the abdomen is rather finer, with wavy darker and lighter streaks on the sides of the abdomen, and one spine only instead of two on tibia iii. I do not think these differences are sufficient to justify a new species.

Text-fig. 90.

*Isopeda leishmanni*.

A, eyes; B, epigyne; C, male palp.

ISOPEDA LEISHMANNI, nov. sp. (Text-fig. 90.)

Female.—Cephalothorax and mandibles red-brown, with yellowish-grey hair. Lip and maxillæ red-brown. Sternum dark brown, with nearly black hair. Abdomen dingy reddish brown with greyish-yellow hair, lighter on the underside. A darker brown median longitudinal stripe with scalloped pattern is just

visible. Legs and palpi red-brown, with thin long greyish-yellow hair; the coxæ the same colour.

The *cephalothorax* is slightly broader than long, and as long as tibia i., in front not quite two-thirds its greatest width. The thoracic fovea is deep and long, the divisions between the cephalic part and thoracic scarcely visible; the cephalothorax sloping gently from sides to middle, is rounded but not high.

The front row of *eyes* are equidistant, two-thirds the diameter of the front median apart, the side larger than the median, which are their diameter from the rear median and half that from margin of the clypeus. The rear median are farther from the laterals than from one another. The first tooth on inner side of falx-sheath is larger than the other.

There is one spine above on tibia iii., none on iv.

The *male* has no distinguishable stripe on back; the front eyes are equal and equidistant, rather more than half a diameter apart, their diameter distant from the rear middle, which are farther from the side than from one another.

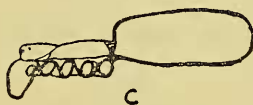
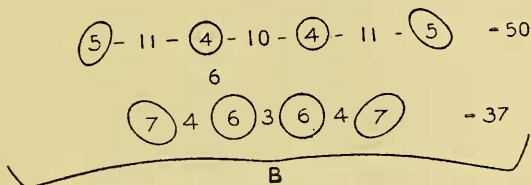
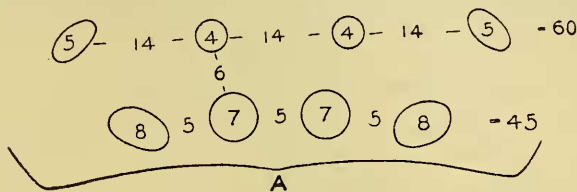
Two spines above on tibia iii. and one on tibia iv.

Measurements in millimetres.

		Female.					
		Long.	Broad.				
Cephalothorax ...		9	{ 6 9½				
Abdomen		15	10				
Mandibles		4½ less than front patella.					
		Male.					
		Long.	Broad.				
Cephalothorax ...		11½	{ 6½ 11½				
Abdomen		13	12				
Mandibles		6½ = patella i.					
		Coxæ.	Tr. & fem.	Pat. & tib.	Metat. & tars.		
Legs	1.	4	12	5, 8½ (13½)	12½	=	42
	2.	4	12	15	13½	=	44½
	3.	4	9½	10	9½	=	33
	4.	4	10½	11	11	=	36½
Palpi.....		2	4½	4	4½	=	15
		Coxæ.	Tr. & fem.	Pat. & tib.	Metat. & tars.		
Legs	1.	5½	16	6½, 13½ (20)	18	=	59½
	2.	5½	17	21½	19	=	63
	3.	5½	14	15	13	=	47½
	4.	5½	14	16	15	=	50½
Palpi.....		2½	5½	4	5	=	17

Albany, King George's Sound, W. Australia (*Mrs. Leishmann*). A male from Perth, W. Australia, is larger and legs slightly longer in proportion, but otherwise not distinguishable (in Brit. Mus. Coll., sent by Mr. H. W. J. Turner).

Text-fig. 91.

*Isopeda montana*.

A, eyes of female; B, eyes of male; C, profile (of female).

ISOPEDA MONTANA, nov. sp. (Text-fig. 91.)

Male & Female.—Cephalothorax and mandibles red-brown, with yellow-brown hair; lip and maxillæ black-brown with pale front edges. Sternum black-brown with dark brown hair, but not extending over coxæ; the latter, legs and palpi light red-brown, with pale brown upstanding hair. Abdomen dingy yellow-grey above, somewhat mottled, rather thick, long, fine grey or yellow-grey hair, with a dark brown spot in front, and three pairs of muscle-spots. Underside greyish yellow, with brown circles round gill-covers, and brown streaks forming a distinct shield-pattern. White underneath patella and lower half of tibia i. and ii.

The *cephalothorax* slopes gradually from the sides, flat above; fovea long, divisions between thoracic and cephalic parts scarcely distinguishable. Cephalothorax as long as tibia i.; mandibles shorter than patella i.

The front row of *eyes* is straight, nearly equidistant, three-fourths of a diameter apart, their diameter between front and rear median; rear median farther from side than from one another in male, equidistant in female. Clypeus one-third of front median.

The first tooth on inner side of falx-sheath large, two next moderate, fourth very small.

There are no spines above on tibia iii. and iv. The metatarsal joint of tibial palp of male is distinctly broad.

Measurements in millimetres.

		Male.					
		Long.	Broad.				
Cephalothorax ...		10	{ 6 11				
Abdomen		11½	8½				
Mandibles		5					
		Coxæ.	Tr. & fem.	Pat. & tib.	Metat. & tars.	=	
Legs	1.	4	13	5, 11 (16)	15	=	48
	2.	4	14	18	16	=	52
	3.	4	11	12½	11	=	38½
	4.	4	11	13	12½	=	40½
Palpi.....		2	4½	3½	4½	=	14½

Female (not fully developed).

		Long.	Broad.				
Cephalothorax ...		8½	{ 5 8½				
Abdomen		9½	6				
Mandibles		3½					
		Coxæ.	Tr. & fem.	Pat. & tib.	Metat. & tars.	=	
Legs.....	1.	3	10½	12	11	=	36½
	2.	3	11½	15	12	=	41½
	3.	3	9	10	9	=	31
	4.	3	9	10	10	=	32
Palpi		1½	4	3	4	=	12½

Loc. Macedon, Victoria.

ISOPEDA POCOCKI, nov. sp. (Text-fig. 92.)

Cephalothorax dark red-brown; mandibles, lip, maxillæ, and sternum almost black-brown. Legs and palpi dark red-brown, with brown hairs all over. Abdomen yellow-brown above, reddish brown underneath; very thick, long, coarse hair; no pattern.

The *cephalothorax* is rather sloping at the sides, steep at rear, convex above. A long fovea followed by a depression almost to second row of eyes. Cephalic side-depressions clearly marked.

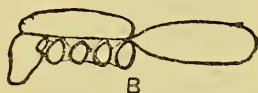
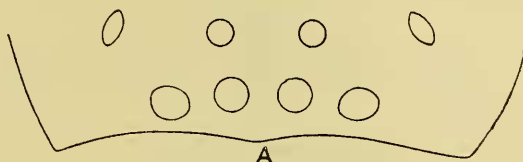
The front row of *eyes* is slightly procurved, equidistant; side-

eyes larger than median, the latter slightly more than their diameter from those of the rear row, which are nearer to one another than to their laterals. Clypeus about equals diameter of front median eyes.

One spine on tibia iii. above, none on tibia iv.

The metatarsal scopula only reaches halfway to base on i., ii., and iii., one-fourth on iv.

Text-fig. 92.

*Isopeda pococki.*

A, eyes; B, profile.

Measurements in millimetres.

Female.

	Long.	Broad.
Cephalothorax ...	14	{ 9 14
Abdomen	18	12
Mandibles	7	= front patella.

	Coxæ.	Tr. & fem.	Pat. & tib.	Metat. & tars.		
Legs	1.	6	16	7, 11 (18)	17	= 57
	2.	6	18	19	19	= 62
	3.	5	16	15	13	= 49
	4.	5	15	15	15	= 50
Palpi.....	3	6	5	5	5	= 19

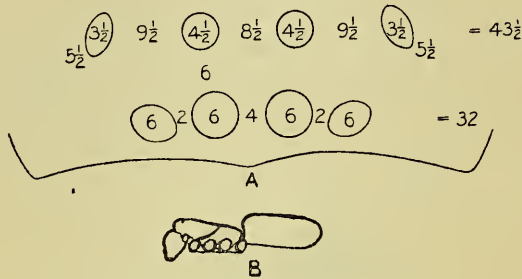
Male.

	Long.	Broad.
Cephalothorax ...	12	{ 7½ 12
Abdomen	12	7
Mandibles	5½	shorter than front patella.

		Coxæ.	Tr. & fem.	Pat. & tib.	Metat. & tars.		
Legs	1.	5	17	7, 13 (20)	19	=	61
	2.	5	19	23	21	=	68
	3.	4	14	16	14	=	48
	4.	4	15	16	16	=	51
Palpi.....		2½	5	4	6	=	17½

Two dried specimens, Australia only, in Brit. Mus. Coll.

Text-fig. 93.



Isopeda tepperi.

A, eyes of female; B, profile.

ISOPEDA TEPPERI, nov. sp. (Text-fig. 93.)

This species differs very slightly from Thorell's and L. Koch's description of *Isopeda pessleri* Thor. But it has no transverse stripe behind the genital fold. In the Adelaide specimens the front side-eyes in the female, as in the male, are somewhat larger than the median, and the latter nearer to the side than to one another. Two spines above on tibia iii. and iv. instead of one. In the Kangaroo Island female the front row eyes are all equal, and tibia iv. has only one spine, which brings it still nearer to *I. pessleri*.

The *cephalothorax* is red-brown; the mandibles, lip, and sternum black-brown with yellowish hair and bristles.

The *sternum* is black, with black hair extending over the two front coxæ and partially over the two rear.

The *abdomen* is yellowish-brown, with rather coarse matted hair, three pairs of muscle-spots showing on the upper side, and a slightly impressed shield-pattern on the under.

Measurements in millimetres.

Female.

	Long.	Broad.
Cephalothorax ...	9	{ 6 9
Abdomen	11	8
Mandibles.....	4	shorter than pat. i.

		Coxæ.	Tr. & fem.	Pat. & tib.	Metat. & tars.		
Legs	1.	4	10	4½, 7 (11½)	10½	=	36
	2.	4	11	13	11	=	39
	3.	4	9	9	8	=	30
	4.	4	9½	9½	9½	=	32½
Palpi		2	4	3	3	=	12

Male.

		Long.	Broad.				
Cephalothorax ...		9	{ 5 9				
Abdomen		8	5½				
Mandibles		4 =	pat. i.				
		Coxæ.	Tr. & fem.	Pat. & tib.	Metat. & tars.		
Legs	1.	4	11	5, 9 (14)	12½	=	41½
	2.	4	12	14½	13½	=	44
	3.	4	10	11	10	=	35
	4.	4	10½	11½	11½	=	37½
Palpi		2	3½	3	4½	=	13

Loc. ♂ & ♀, Adelaide (*Noack*); ? Kangaroo Island (*Tepper*).

ISOPEDA FLAVIDA L. Koch.

Isopeda flavida L. Koch, Die Arachn. Austr. 1875, p. 686.

In the Keyserling Collection, British Museum, is a non-adult male, and I have several females (all young) apparently the same from Macedon, Victoria. The eyes are green on black rims. On all (young) there is one spine above on tibia iii. but none on tibia iv.

The measurements of Keyserling's male are as follows:—

		Long.	Broad.				
Cephalothorax ...		5	5				
Abdomen		4	3				
Mandibles		2					
		Coxæ.	Tr. & fem.	Pat. & tib.	Metat. & tars.		
Legs	1.	2	6½	8½	7½	=	24½
	2.	2	6½				
	3.	2	6	6½	6	=	20½
	4.	2	6½	6½	6½	=	21½
Palpi		1½	2	2	3	=	8½

Loc. Bowen, Sydney, Macedon.

ISOPEDA VASTA L. Koch.

Isopeda vasta L. Koch, Die Arachn. Austr. 1875, p. 681.

In the Keyserling Collection is an adult male and subadult female, both from Brisbane.

The mandibles of both are smooth and broad, the female remarkably rounded and kneed at base.

There is a black sloping streak at the base of femur i., and a similar dark brown streak at base of tibia i.

In both sexes a spine on tibia iii. above, none on iv.

Measurements in millimetres.

		Female.					
		Long.	Broad.				
Cephalothorax ...		$8\frac{1}{2}$	$\left\{ \begin{array}{l} 5\frac{1}{2} \\ 8\frac{1}{2} \end{array} \right.$				
Abdomen		$11\frac{1}{2}$					
Mandibles		4	$2\frac{1}{2}$				
		Coxæ.	Tr. & fem.	Pat. & tib.	Metat. & tars.		
Legs	1.	3	9	$4\frac{1}{2}, 6\frac{1}{2}$ (11)	10	=	33
	2.	3	$10\frac{1}{2}$	$12\frac{1}{2}$	11	=	37
	3.	3	7	9	7	=	26
	4.	3	8	9	9	=	29
Palpi		2	$3\frac{3}{4}$	3	3	=	$11\frac{3}{4}$
		Male.					
		Long.	Broad.				
Cephalothorax ...		7	7				
Abdomen		$7\frac{1}{2}$	$5\frac{1}{2}$				
Mandibles		3	2 = pat. i.				
		Coxæ.	Tr. & fem.	Pat. & tib.	Metat. & tars.		
Legs	1.	3	10	$12\frac{1}{2}$	12	=	$37\frac{1}{2}$
	2.	3	12	$14\frac{1}{2}$	14	=	$43\frac{1}{2}$
	3.	3	$9\frac{1}{2}$	8	8	=	$28\frac{1}{2}$
	4.	3	10	$8\frac{1}{2}$	10	=	$31\frac{1}{2}$
Palpi		2	4	$2\frac{1}{2}$	$4\frac{1}{2}$	=	13

ISOPEDA PESSLERI Thor.

Isopeda pessleri Thor. Ar. non. Nov. Holl., Öfv. K. Vet.-Akad. Förh. 1870, no. 4, p. 684.

Isopeda pessleri L. Koch, Die Arachn. Austr. 1875, p. 684.

Loc. Queensland and New South Wales. Some South (Adelaide Mus.) and Central (Horn Exp.) Australian specimens are very close to this, but larger, and probably not the same.

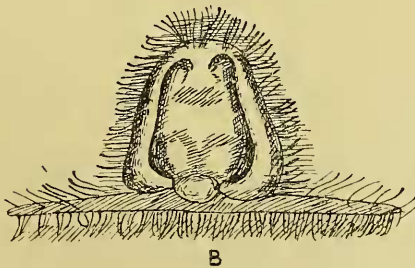
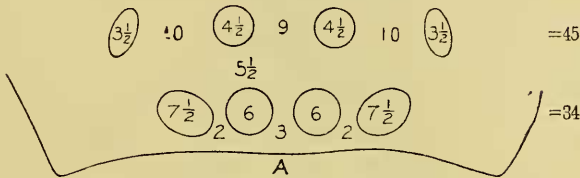
ISOPEDA VILLOSA L. Koch.

Isopeda villosa L. Koch, Die Arachn. Austr. 1875, p. 687.

Loc. Sydney (*L. K.*). Specimens from Victoria and South Australia I attribute to this—they have eight spots on back, two middle pairs conjoined; also a female sent by Dr. Broom from Muldiva, Queensland. The latter measures in millimetres:—

	Long.	Broad.			
Cephalothorax ...	12½	{ 8 12½			
Abdomen	19				
Mandibles	6				
	Coxæ.	Tr. & fem.	Pat. & tib.	Metat. & tars.	
Legs	1.	4½	12½	6½, 9½ (16)	14½ = 47½
	2.	4½	14½	18	15½ = 52½
	3.	4½	12	12	10½ = 39
	4.	4½	12½	12½	11 = 40½
Palpi		3	4¼	5	4¾ = 17

Text-fig. 94.



Isopeda leai.

A, eyes of female ; B, epigyne.

ISOPEDA LEAI, nov. sp. (Text-fig. 94.)

Female.—The cephalothorax and mandibles are red-brown, the latter with greyish-yellow bristles; the lip and maxillæ dark brown; sternum black-brown, the dark hair spreading over the coxæ. The abdomen is pale brown, with a darker brown scolloped longitudinal stripe above; yellow with brown irregular spots below; a faint dark stripe behind epigyne. The legs and palpi are reddish covered with fine silky brownish-yellow hair. The underside of patella and middle of tibia i. and ii. silvery white, brown each end; scopulæ dark grey.

The *cephalothorax* is rounded, moderately high, depression

between cephalic and thoracic parts well marked, median sulcus rather long.

The front row of *eyes* is straight, the laterals are larger than the median, which are half their diameter apart and the same or rather less from the side; the clypeus barely one-third their diameter; the front and rear median are barely the diameter of the latter apart, the diameter of the rear three-fourths of front; rear row straight; middle eyes two diameters apart and slightly more from the laterals.

The teeth on the inner falx-sheath are three large and one very small.

One spine above on tibia iii., none on tibia iv.

Measurements in millimetres.

	Long.	Broad.				
Cephalothorax ...	9	{ 6 in front.				
		{ 9				
Abdomen	16	10½				
Mandibles	4 less than front patella.					
		Pat. &	Metat.			
		tib.	& tars.			
Legs	1.	Coxæ.	Tr. & fem.	4½, 9½	12	= 37½
		3½	10	(12)		
	2.	3½	12	13	12	= 40½
	3.	3½	9	10	9	= 31½
	4.	3½	9½	10	10	= 33
Palpi		1½	4	3½	3½	= 12½

One female from Adelaide, sent to Brit. Mus. by Rev. T. S. Lea.

This species is rather close to *I. frenchi*, nov. sp., from Victoria, and *I. saundersi*, nov. sp., from West Australia, both of which have the same deep velvety-black sternum, the colour extending partly over the coxæ. It differs from both in a rather smaller cephalothorax, in the eyes of both front and rear rows being nearer together, the side-eyes larger than median of front row, and closer together than in the former.

IsopeDA ARDROSSANA, nov. sp. (Text-fig. 95.)

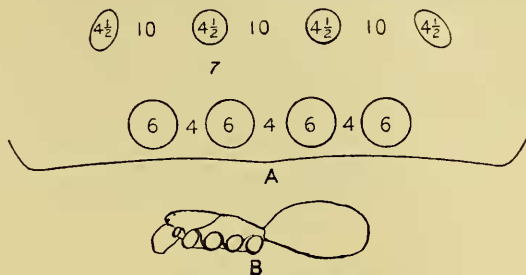
Female.—The cephalothorax is red-brown; mandibles dark red-brown with long pale yellow hair; lip and maxillæ dark brown; sternum black-brown with long thick hair extending over coxæ. The abdomen is dingy yellow-brown above, paler below, with a transverse black band behind the epigyne. The legs and palpi are bright orange with long silky hair, darker bands on tibiæ i., ii., and iii., silver in between and under patella; scopulæ dark grey.

The *cephalothorax* is flatter than in *I. leai*, to which also it is rather close, but the front-row eyes are equal and equidistant, two-thirds of their diameter apart; the medians rather more

than their diameter from those of the rear row, which are also equidistant, more than twice the diameter of rear median apart, these are three-fourths the diameter of front eyes; clypeus one-half of front median.

There are two spines above on tibia iii. and one on tibia iv., of one leg only, the other having no mark.

Text-fig. 95.

*Isopeda ardrossana.*

A, eyes of female; B, profile.

Measurements in millimetres.

	Long.	Broad.				
Cephalothorax ...	11	$\left\{ \begin{array}{l} 6\frac{1}{2} \\ 11 \end{array} \right.$				
Abdomen	16		11			
Mandibles	5	= front patella.				
		Coxæ.	Tr. & fem.	Pat. & tib.	Metat. & tars.	
Legs	1.	4	13	$14\frac{1}{2}$	13	= $44\frac{1}{2}$
	2.	4	14	17	14	= 49
	3.	4	$11\frac{1}{2}$	12	$10\frac{1}{2}$	= 38
	4.	4	$11\frac{1}{2}$	13	12	= $40\frac{1}{2}$
Palpi	3		$4\frac{1}{2}$	4	$4\frac{1}{2}$	= 16

One female in South Australian Museum Collection, sent by Mr. E. H. Cadd from Ardrossan, South Australia.

ISOPEDA PENGELLYA, nov. sp. (Text-fig. 96, p. 448.)

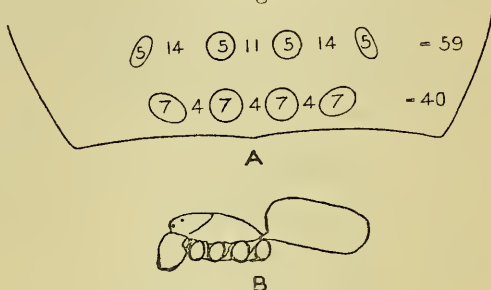
Female.—Cephalothorax bright red; mandibles, lip, and maxillæ red-brown with greyish-yellow hair; sternum dark brown with dark brown hair, paler in front. Abdomen brownish yellow with dark brown spots in front, behind which darker brown with brown hairs in thick transverse stripes; a dark brown stripe reaches from the anterior end into the dark brown mass. Under-side yellow-brown with irregular small brown spots, a narrow dark transverse stripe behind genital fold, and a faint broad shield-depression. Legs bright orange-brown above, duller underneath, thick yellowish upstanding hair; dark grey scopulæ.

Cephalothorax somewhat high, sloping from sides and rear in an almost continuous curve transversely and longitudinally. In front two-thirds the greatest breadth.

Front row of *eyes* straight; laterals only slightly larger than median, equidistant, three-quarters of diameter of median apart, front and rear median the diameter of front side-eyes apart; clypeus half of front median; rear median eyes nearer to one another than to the side-eyes.

On tibia iii. above is one spine, none on tibia iv.

Text-fig. 96.



Isopeda pengellya.
A, eyes of female; B, profile.

Measurements in millimetres.

	Long.	Broad.				
Cephalothorax ...	$11\frac{1}{2}$	$\left\{ \begin{array}{l} 7 \\ 11\frac{1}{2} \end{array} \right.$				
Abdomen	14	11				
Mandibles	5 shorter than pat. i.					
	Coxæ.	Tr. & fem.	Pat. & tib.	Metat. & tars.		
Legs	1.	$4\frac{1}{2}$	$13\frac{1}{2}$	$6\frac{1}{2}, 10$ ($16\frac{1}{2}$)	14	= $48\frac{1}{2}$
	2.	$4\frac{1}{2}$	15	18	$15\frac{1}{2}$	= 53
	3.	$4\frac{1}{2}$	12	13	$11\frac{1}{2}$	= 41
	4.	$4\frac{1}{2}$	12	13	13	= $42\frac{1}{2}$
Palpi	2	5	$4\frac{1}{2}$	$4\frac{1}{2}$		= 16

One female from Pengelly, West Australia, and two from Darling Ranges, West Australia, sent by Mr. B. H. Woodward.

ISOPEDA SAUNDERSI, nov. sp. (Text-fig. 97.)

Female.—Cephalothorax and mandibles dull red-brown; lip and maxillæ dark brown, fringes orange; mandibular bristles greyish yellow; sternum black-brown, with thick matted hair extending over coxæ. Abdomen greyish yellow, with longitudinal scolloped

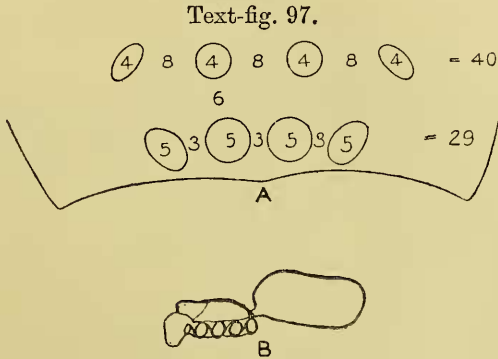
brown stripe, yellower underneath with short pale yellow hair; darker stripe behind epigyne, more or less developed in different specimens. Legs and palpi dull reddish brown, pale yellow-grey hairs; dark grey scopulæ.

The *cephalothorax* is moderately high, rounded rather broadly in front. *Mandibles* short and broad, much rounded at base.

The *eyes* of the front row are nearly equal and equidistant, three-fifths diameter apart and same distance from the margin of the clypeus. The rear row is slightly procurved, the eyes are equidistant, twice the diameter of their median apart, which are four-fifths diameter of front. The front and rear medians are distant one and a half times the diameter of the rear median.

The *legs* are short and stout. Two spines above on tibia iii., but where sometimes missing the mark of posterior spine is not visible, none on tibia iv.

The scopula on metatarsus iv. thins off towards the base.



Isopeda saundersi.

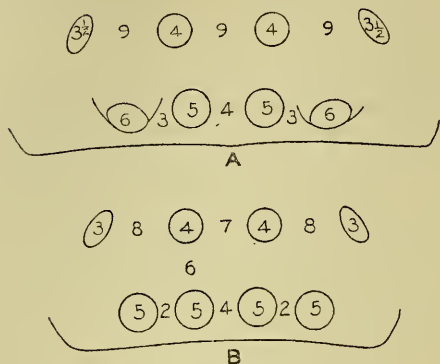
A, eyes of female; B, profile.

Measurements in millimetres.

	Long.	Broad.			
Cephalothorax ...	9	$\left\{ \begin{array}{l} 5\frac{1}{2} \\ 9 \end{array} \right.$			
Abdomen	15	11			
Mandibles	4	= front patella.			
			Pat. &	Metat.	
			tib.	& tars.	
Legs	1.	3	9 $\frac{1}{2}$	11	10 $\frac{1}{2}$ = 34
	2.	3	10 $\frac{1}{2}$	12	11 = 36 $\frac{1}{2}$
	3.	3	8	9	8 = 28
	4.	3	8	9 $\frac{1}{2}$	9 $\frac{1}{2}$ = 30
Palpi	1 $\frac{1}{2}$	3 $\frac{1}{2}$	3 $\frac{1}{2}$	3 $\frac{1}{2}$	= 12

Two females from Chapman River, West Australia, were sent to Brit. Mus. by Mr. W. Saunders.

Text-fig. 98.

*Isopeda tietzi.*

A, eyes of female; B, eyes of male.

ISOPEDA TIETZI, nov. sp. (Text-fig. 98.)

Female. -Cephalothorax red-brown, covered with fine closely-lying yellow hair; mandibles darker red-brown, long yellowish-grey bristles; lip and maxillæ dark red-brown to black-brown; sternum black-brown, with thick velvety-black hair extending over the coxæ. Legs yellow-brown, with dingy yellow hair; silvery-white below the patella, brown at each end, and silvery-white in middle underneath the tibia of first and second pairs, fainter on third and fourth. Abdomen yellow-brown above and below, a dark stripe behind the genital fold and impressed shield-pattern.

The *males* vary from the same colour as the females to lighter yellow-brown and rather lighter mandibles, lip, and maxillæ. In one specimen the eyes are yellow on distinct black rims, in the others all yellow.

The *cephalothorax* is moderately high, and rounded some distance from the sides, a deep and long fovea with faint side striæ. The front row of *eyes* is slightly procurved, the side larger than the middle and only half the distance from them that the latter are from one another. The rear row are equidistant, and the distance between front and rear median greater than the diameter of the front median.

On tibia iii. in the females is one spine above, in the males two on tibia iii. and one on tibia iv.

Measurements in millimetres.

	Female (largest).	
	Long.	Broad.
Cephalothorax ...	9	{ 5½ front. 9
Abdomen	15	11
Mandibles	4½	shorter than front patella.

		Coxæ.	Tr. & fem.	Pat. & tib.	Metat. & tars.		
Legs	1.	3½	10	12	11	=	36½
	2.	3½	11	13	11½	=	39
	3.	3½	9½	9½	8½	=	31
	4.	3½	10	10	10	=	33½
Palpi		2½	4	4	4	=	14½

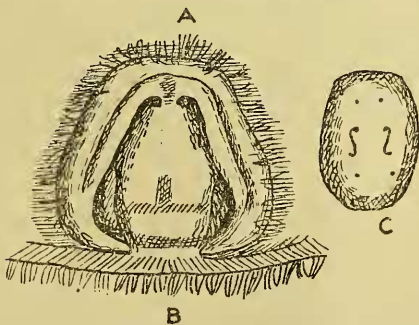
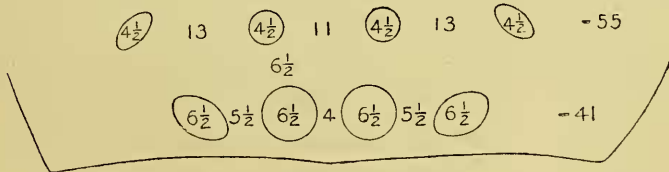
Male (largest).

	Long.	Broad.				
Cephalothorax ...	8	{ 4½ 8				
Abdomen	8	6				
Mandibles	3½					

		Coxæ.	Tr. & fem.	Pat. & tib.	Metat. & tars.		
Legs	1.	3	11	13	13	=	40
	2.	3	13	14	14	=	44
	3.	3	9	9	9	=	30
	4.	3	10½	10½	11½	=	35½
Palpi		2	4	3	5	=	14

Males and females from Adelaide and environs sent to the South Australian Museum by Mr. A. Tietz, and one male from Victoria by Prof. Spencer.

Text-fig. 99.



Isopeda woodwardi.

A, eyes of female; B, epigyne; C, upperside of abdomen.

ISOPEDA WOODWARDI, nov. sp. (Text-fig. 99.)

Female.—Cephalothorax red-brown, darker in front, yellowish hair; mandibles, lip, and maxillæ black-brown, brown bristles,

light red fringes; sternum red-brown, yellowish-brown hair. Abdomen dingy yellow-brown above, brighter below; three pairs of dark spots on back, the anterior and posterior pairs being round, and the median longitudinal lines as described by L. Koch in his *I. dolosa* and *I. villosa*; rather long downlying yellow hair; on the underside only a slightly darker coloured narrow transverse stripe behind the genital fold, and a faint shield-pattern. The legs and palpi are bright reddish brown, with long upstanding brown hair, the scopulæ darker yellowish grey.

The *cephalothorax* is rather flat, rounded at sides and broad in front; clypeus low, with a long and deep median sulcus, but only faint side striæ.

The front row of *eyes* are equal in size, the median pair being nearly two-thirds their diameter apart and nearly half as much again from the laterals, the row being straight, they are their diameter from the median of the rear row, which are two and a half diameters apart (three-quarters of median) and three from their laterals.

There are no spines on the upperside of tibia iii. or iv.

This is very like *Isopeda villosa* L. Koch, and the specimens from Central Australia (Horn Exp. pt. ii., Zool. p. 339) which I took to be *I. dolosa* L. Koch. It differs from the former in the front eyes being equal instead of laterals largest, and the side-eyes farther from middle than the latter are from one another, and the rear median nearer together than their distance from the side; the transverse stripe on the underside of the abdomen and the sternum are not so dark. They also differ from the latter in having the front row of eyes farther apart and not equidistant; legs longer in proportion, and cephalothorax not quite so flat.

Measurements in millimetres.

		Long.	Broad.				
Cephalothorax ...		11½	$\left\{ \begin{array}{l} 7\frac{1}{2} \\ 11\frac{1}{2} \\ 13\frac{1}{2} \end{array} \right.$				
Abdomen		17½					
Mandibles		5½					
Legs	1.	Coxæ. 5	Tr. & fem. 13	Pat. & tib. 6, 11	Metat. & tars. 15	= 50	
	2.	5	14½	20	17	= 56½	
	3.	5	12	11	10	= 38	
	4.	5	11½	13	11½	= 41	
Palpi		2½	5	4	5	= 16½	

One female from the interior of S. Australia, sent to Brit. Mus. by Mr. H. P. Woodward.

ISOPEDA ROBUSTA L. Koch.

Isopeda robusta L. Koch, Die Arachn. Austr. 1875, p. 691.

Koch described this from a single female in the Vienna

Collection. He says the rear middle eyes are $1\frac{1}{2}$ times as far from the laterals as from one another. There are two dried specimens (females) in the Brit. Mus. Collection, without localities, which I refer to this—Koch's specimen had no locality other than Australia.

In those I have examined the eyes are black on yellow rims; except in this, the want of black markings, and the longer distance between median and side rear eyes, it is very near to my *I. woodwardi*, above.

ISOPEDA CORDATA L. Koch.

Isopeda cordata L. Koch, *loc. cit.* p. 694.

Koch described this from a non-adult female from Sydney and distinguishes it by the rear row of eyes being slightly recurved and having no scopula on metatarsus iv.

It has not been recorded since, and is a somewhat doubtful species.

ISOPEDA HIRSUTA L. Koch.

Isopeda hirsuta L. Koch, *loc. cit.* p. 693.

A male from Bowen, Queensland; not recorded since.

Has a light-coloured sternum, flat cephalothorax, no spines on tibia iii. or iv. above; front row of eyes equal and equidistant, very near the margin of the clypeus. It only seems to differ from *I. insignis* Thor. in having the front eyes farther apart.

ISOPEDA AUREA L. Koch.

Isopeda aurea L. Koch, *loc. cit.* p. 696.

Koch described a male and female (both young and undeveloped) from Port Mackay.

There is in the Brit. Mus. Collection a magnificent specimen (female) which I take to be the full-grown of his species, from Queensland also. It is red-brown, thickly covered with pale yellow to orange hair, the femora with brown spots underneath.

The measurements are as follows:—

	Long.	Broad.				
Cephalothorax ...	$16\frac{1}{2}$	$\left\{ \begin{array}{l} 10\frac{1}{2} \\ 17 \end{array} \right.$				
Abdomen	16	14				
Mandibles	9	= front patella.				
	Coxæ.	Tr. & fem.	Pat. & tib.	Metat. & tars.		
Legs	1.	6	20	25	22	= 73
	2.	7	22	28	24	= 81
	3.	6	17	19	16	= 58
	4.	7	18	18	18	= 61
Palpi	$3\frac{1}{2}$	8	8	7	=	$26\frac{1}{2}$

ISOPEDA FLAVIBARBIS L. Koch.

Described from a non-adult female from Sydney; not recorded since.

Genus ZACHRIA L. Koch.

Zachria L. Koch, Die Arach. Austr. vol. ii. p. 649.

Zachria Simon, Hist. Nat. des Ar. vol. ii. p. 45.

Type, *Z. flavicoma* L. Koch.

As M. Simon remarks, this genus differs from *Isopeda* L. Koch in the somewhat longer cephalothorax.

The two distinguishable species may be diagnosed as follows:—

Abdomen brownish yellow all over, no stripe *flavicoma* L. Koch.

Abdomen brownish yellow, a darker brown stripe, widest anteriorly and narrowing to rear, the whole length of back from front to spinnerets *oblonga* L. Koch.

ZACHRIA FLAVICOMA L. Koch.

Zachria flavicoma L. Koch, Arach. Austr. vol. ii. p. 650.

Loc. King George's Sound. Female only described. No record since.

ZACHRIA OBLONGA L. Koch.

Zachria oblonga L. Koch, l. c. p. 651.

In the British Museum (Keyserling Collection) is a specimen labelled *Zachria oblonga* L. Koch, from Sydney, a female, which agrees with Koch's description and is no doubt correctly named.

The eyes are in every respect those of an *Isopeda*, the cephalothorax flat above, rather steep at the sides and rear. The epigyne agreed with Koch's drawing, but the specimen was half-moulted, and on removing the skin the new one underneath is of true *Isopeda* form. The mandibles are much kneed at base; three teeth on outer and two on inner falx-sheath.

The measurements in millimetres are as follows:—

	Long.	Broad.				
Cephalothorax ...	9	} 5 in front. 7				
Abdomen	14		8			
Mandibles	4	= front patella.				
			Pat. & tib.	Metat. & tars.		
Legs	1.	3	9	10½	9	= 31½
	2.	3	10	12	10	= 35
	3.	3	7	9	7	= 26
	4.	3	8	9	8	= 28
Palpi.....	1½	3½	3½	3½	=	12

Koch described a *Zachria hæmorrhoidalis* from Sydney from a quite small, not adult female. Judging from his description it appears to be a young specimen of *Z. oblonga*.

Genus TYPOSTOLA E. Sim.

Typostola E. Sim. Hist. Nat. des Ar. vol. ii. p. 44.

Type species, *T. barbata* (L. Koch).

M. Simon removes this species from *Isopeda* and makes it the type of a new genus on the strength of the somewhat larger size of the rear median eyes compared with the laterals, and the curious development of a mass of very long and stout plumose bristles on the inner side of the mandibles and the outer side of the maxillæ.

In the specimens in the British Museum (two females and a male) the former point is not by any means clearly shown, but in the male palp the spiral support and flagellum are only partially developed, being in fact in the intermediate stage; it is therefore, I think, a quite good genus. The outer mandibular teeth are also five, instead of the four in *Isopeda*. The comparative nearness of the rear middle eyes in some cases makes the eye-square longer than broad.

The female specimens in the British Museum differ from one another in minor points, and considerably from the male. All three, so far as can be judged, are different from L. Koch's *T. barbata*, but it must be remembered that they are all single specimens. The Rev. O. P. Cambridge has a fine female agreeing with the largest *T. magnifica*, which he was good enough to allow me to inspect.

The following synopsis shows the chief points of difference. I am not quite satisfied as to how far *T. major* really differs from *T. barbata* L. Koch, but his drawing of the epigyne, if correct and from a fully adult specimen, should be conclusive.

- | | |
|--|-----------------------------|
| A. Lip and maxillæ yellow-brown. Rear side-eyes longer than the front laterals and clearly much larger than the rear middle, at least in male. Cephalothorax shorter than tibia iii. | <i>broomi</i> , nov. sp. |
| B. Lip and maxillæ dark or nearly black-brown. Front and rear laterals of equal diameter. | |
| a ¹ . Lip and maxillæ scarcely any lighter at extremities. Cephalothorax clearly longer than broad, as long as tibia iv. and in front as wide as the mandibles are long | <i>magnifica</i> , nov. sp. |
| b ¹ . Lip and maxillæ much lighter at extremities than in the above. Cephalothorax as broad as long, clearly longer than tibia iv., and wider in front than mandibles are long. | |
| a ² . The points of the chitinous oval of the epigyne widely apart at base. Rear middle eyes more than one and a half times their diameter apart..... | <i>major</i> , nov. sp. |
| b ² . Chitinous oval of epigyne closed at base (<i>sec.</i> Koch). Rear middle eyes only slightly farther apart than their diameter | <i>barbata</i> L. Koch. |

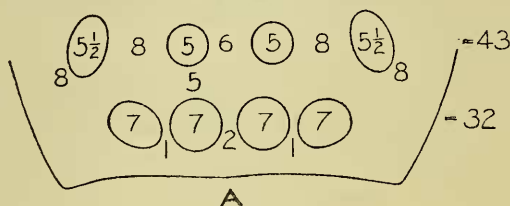
TYPOSTOLA BROOMI, nov. sp. (Text-fig. 100, p. 456.)

Cephalothorax, lip, and maxillæ orange-brown; mandibles the same but darker; beard pale orange; sternum and coxæ yellow with pale yellow hair; legs somewhat darker; scopulæ dark grey. Abdomen dingy orange with yellowish-grey hair, both lighter on underside, no signs of any pattern

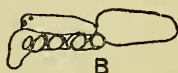
The *cephalothorax* very slightly longer than broad, narrowing in front to half its width; fovea rather long and deep, with clearly-marked depressions bordering the cephalic part.

The front row of *eyes* are equal in diameter, half of same from margin of clypeus; the median are less than one-third of their diameter apart and only half of the same distance from the laterals, three-fourths of their diameter from the rear medians, which are slightly less than that distance in diameter and slightly farther apart. The rear row is straight, but the laterals are larger than the front laterals and a little farther from their median than the latter are apart. They bear to the latter in diameter the proportion of 8 to 5.

Text-fig. 100.



A



B



C



D

Typostola broomi.

A, eyes; B, profile; C, support in male palp; D, flagellum of male palp.

There are no spines on tibia iii. and iv. above.

The scopulæ extend thickly to the base of metatarsi i., ii., & iii., and there is further a thick coating of hair on the underside of the tibia to the base of patella. The fourth pair of legs have been reproduced from the coxa and are abnormally small. The underside of the palpi has a thick divided scopula to the base of the femoral joint. The palpal flagellum and supporting-drum have about three spirals only, the latter on account of its shortness being cup-shaped.

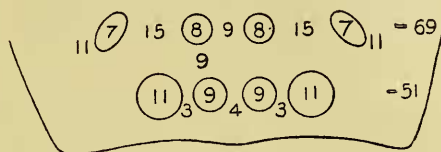
The measurements in millimetres are as follows:—

	Long.	Broad.
Cephalothorax ...	9½	{ 4½ in front. 9
Abdomen	11	8
Mandibles	5 shorter than patella i.	

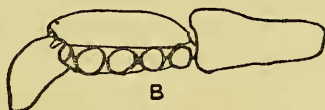
		Coxæ.	Tr. & fem.	Pat. & tib.	Metat. & tars.	=	
Legs	1.	4	17	21	20	=	62
	2.	4	18	23	22	=	67
	3.	4	12	16	14	=	46
	4.	4	9	12	12	=	37 ¹
Palpi.....		2½	5	5	4½	=	17

One male from Muldiva, N. Queensland, sent by Dr. Broom.

Text-fig. 101.



A



B



C

Typostola magnifica.

A, eyes; B, profile; C, epigyne.

TYPOSTOLA MAGNIFICA, nov. sp. (Text-fig. 101.)

Cephalothorax red-brown, somewhat darker about the eye-space; mandibles black-brown; lip and maxillæ dark red-brown, only slightly paler at upper edges, beards pale orange. The sternum and coxæ are bright orange, the front two pairs of the latter being somewhat darker than the posterior, the hair and bristles pale

¹ Abnormal.

yellow. The legs and palpi are red-brown above, paling to lighter red below; general hair-covering yellow, but scopulæ dark grey. The abdomen is a dingy greyish yellow above and below, three pairs of darker spots on the upperside; epigyne dark brown all over.

The *cephalothorax* is clearly broader than long, rounded at sides, square in front, where it is as broad as the rather stout mandibles are long. It is almost flat from the rear row of eyes to the rear slope, but slopes rather gradually from the sides; the median fovea is long and distinct.

The front row of *eyes* is slightly procurved, the laterals being half their diameter from the margin of the clypeus; the medians, which are a little smaller, being three-fourths. They are equidistant, less than one-third of their diameter. The rear row is straight, the laterals the same diameter as front laterals. The median pair are clearly smaller, four-fifths the diameter of front median, from which they are distant rather more than their diameter and the same distance apart, from their lateral they are nearly two of their diameters distant. The median eye-square is rather longer than broad.

The teeth on the mandibular sheath are large and powerful, on the inner side four large and one smaller, on the outer one large and one medium-sized.

The *legs* are long and powerful and somewhat cylindrical; thick scopulæ to base of metatarsi i., ii., and iii., two-thirds of metatarsus iv.; matted hair underneath the other joints except femur.

No spines above on tibia iii. or iv.

The *abdomen* is broadly ovate, covered with a thick mat of downlying hair; on the underside four longitudinal impressed lines form the indication of a shield. The epigyne is a broad oval with wide chitinous margin, and well-formed longitudinal median ridge dividing the inner portion, which is the same dark colour as the outer.

The measurements in millimetres are as follows:—

	Long.	Broad.			
Cephalothorax ...	17½	$\left\{ \begin{array}{l} 9 \\ 16\frac{1}{2} \\ 17\frac{1}{2} \end{array} \right.$			
Abdomen	22				
Mandibles	·9				
			Pat. & tib.	Metat. & tars.	
Legs	1.	Coxæ. 6	Tr. & fem. 23	9, 22	28 = 88
				(31)	
	2.	6	25½	35	29 = 95½
	3.	6	19	23½	20 = 68½
	4.	6	20	7, 17½	24 = 74
				(24½)	
Palpi.....	4	9	9	8½	= 30½

The Rev. O. P. Cambridge has one female with slightly longer legs than this one, sent by Mr. D. Le Souëf to the British Museum; both are from Queensland.

TYPOSTOLA MAJOR, nov. sp.

Cephalothorax red-brown, somewhat darker in front, clothed with short yellow hair, nearly white between the eyes; mandibles black-brown; beard red-brown; lip and maxillæ red-brown, pale in front, fringes orange, beards pale yellow. Sternum and coxæ orange, the front one of latter thickly covered with long yellow hair, others bare. Legs bright reddish brown. Abdomen dark brown with brown hair.

The *cephalothorax* is very slightly longer than broad, distinctly longer than tibia iv., its square front is more than one-half its greatest breadth, and clearly broader than the mandibles are long. The median fovea and those at junction of cephalic part rather indistinct.

Both rows of *eyes* are straight, the laterals equal; the eyes of the front row are equidistant half the diameter of the median which are four-fifths the diameter of side, and their diameter distant from the rear median; the latter are more than once and a half of their diameter apart, being three-fifths of laterals, and more than twice their diameter from the latter. The median eye-square is as broad as long.

The *abdomen* is ovate, truncate in front, thickly covered with coarse downlying hair; three pairs of muscle-spots above and four longitudinal hair-lines on underside as in *T. magnifica*. The epigyne is white in the median area instead of dark-coloured as in the last, and is flat without any median ridge, the points of the horseshoe chitinous frame being well apart as in the *Isopeda* type generally.

The *legs* are comparatively rather shorter than the above and thickly covered with downlying hair; the femora underneath with long upstanding bristles. The palpi are thickly covered with hair on all joints and, without the maxillæ joints, are fully once and a half the length of the cephalothorax. L. Koch gives once and one-third for his *T. barbata*.

There is only one spine above on tibia ii., instead of two as in *T. magnifica*.

The measurements in millimetres are as follows:—

		Long.	Broad. ..			
Cephalothorax ...		15½	}	8½		
				15		
Abdomen		17½		13½		
Mandibles		7½	= front patella.			
					Pat. & Metat.	
		Coxæ.	Tr. & fem.	tib.	& tars.	
Legs	1.	6	20	25	23½	= 74½
	2.	6	22	28	25	= 81
	3.	6	17	19	18	= 60
	4.	6	18	20	20	= 64
				(6, 14)		
Palpi.....		4	7	8	7	= 26

One female from Queensland.

Genus *PEDIANA* E. Simon.

Heteropoda L. Koch, Ar. Austr. 1875 (ad partim *H. regina*).

Pediana E. Simon, Rev. Spar. 1880, p. 38.

Polydamna Thor. Rag. Mal. e Pap. 1881, p. 299.

Pediana E. Simon, Hist. Nat. des Ar. vol. ii. p. 56.

Type species, *P. regina* L. Koch.

This genus was formed by M. Simon in 1880 for L. Koch's *Heteropoda regina* from Queensland, and Thorell soon after picked it out for a new genus which he called *Polydamna*, from Yule Island, Torres Strait. Apparently the only male known is described by the latter, and his description of the male palp with four spirals confirms my belief that it belonged to this group and not to the *Heteropodæ*, to which it could be ascribed only by the length of the median eye-space.

My *Isopeda horni* (Horn Exp. vol. ii. Zool. p. 340) really belongs to this genus, and two more species in the British Museum now bring up the number to four. The whole eye-space is raised up on a low flat tubercular region. The legs are rather short and thin, the two front pairs being of equal length. The rear row of eyes is slightly procurved, the eyes being about equal in size; the front row straight or recurved, with the eyes either equal or the laterals slightly larger. The median eye-square is clearly longer than broad.

The species can be distinguished as follows:—

- a. Front row of eyes equal in size.
- a¹. On underside of abdomen a black lunate transverse stripe behind epigyne and similar smaller stripe in front of spinnerets; intermediate space bright reddish brown. Cephalothorax 6 to 7 mm. in length. One spine on tibia iii. and iv. above *regina* L. K.
- b¹. An ill-defined dark patch behind epigyne; no stripe in front of spinnerets; intermediate space dull yellow-brown, with irregular dark spots. Cephalothorax about 10 mm. in length. No spine on tibia iii. or iv. above *horni* Hogg.
- b. Front lateral eyes larger than median. One spine on tibia iii. and iv.
- c¹. On the underside of femora i. and ii. bright red hair. Cephalothorax about 10 mm. long. Eyes bright orange..... *tenuis*, nov. sp.
- d¹. Underside of femora yellowish brown, dark, hairy. Cephalothorax 6 to 7 mm. long. Eyes black. Three teeth only on outer side of falx-sheath *occidentalis*, nov. sp.

PEDIANA REGINA (L. Koch).

Heteropoda regina L. Koch, Die Arachn. Austr. vol. ii. 1875, p. 716.

Pediana regina L. Koch, E. Simon, Rev. Sparass. 1880, p. 39.

Polydamna regina L. Koch, T. Thorell, Rag. Mal. e Pap. vol. iii. 1881, p. 300.

A female in the Keyserling Collection, Brit. Mus., has irregular darker brown patches on a yellow-brown ground on the upper-side of the abdomen; on the underside a transverse black spot

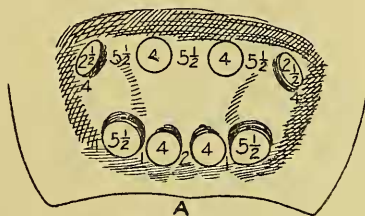
close to the front margin, a broad lunate band behind the epigyne, and a smaller black band in front of the spinnerets. Three larger and one very small tooth on underside of falx-sheath, two on upperside.

Measurements in millimetres.

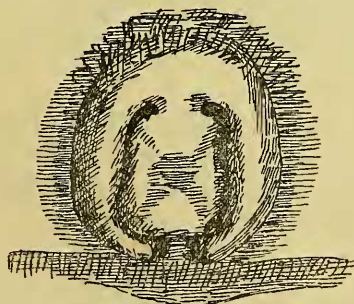
		Long.	Broad.						
Cephalothorax ...		7	$6\frac{1}{2}$						
Abdomen		9	$6\frac{1}{2}$						
Mandibles		$3\frac{1}{2}$	= front patella.						
				Coxæ.	Tr. & fem.	Pat. & tib.	Metat. & tars.		
Legs	1.		3	$8\frac{1}{2}$	$9\frac{1}{2}$	$8\frac{1}{2}$	=	$29\frac{1}{2}$	
	2.		3	$8\frac{1}{2}$	$9\frac{1}{2}$	$8\frac{1}{2}$	=	$29\frac{1}{2}$	
	3.		$2\frac{1}{2}$	7	7	6	=	$22\frac{1}{2}$	
	4.		3	8	8	8	=	27	
Palpi			$1\frac{1}{2}$	$2\frac{1}{2}$	$2\frac{1}{2}$	2	=	$8\frac{1}{2}$	

Loc. Yule Island (New Guinea); Cape York, N. Queensland; Bowen, Gayndah, Peak Downs, Queensland.

Text-fig. 102.



A



B

Pediana occidentalis.

A, eyes; B, epigyne.

PEDIANA OCCIDENTALIS, nov. sp. (Text-fig. 102.)

This species is on the whole very like *P. regina*.

The cephalothorax and mandibles are dark red-brown, the hairing pale yellow; lip and maxillæ rather darker; sternum

dark orange; coxæ, legs, and palpi bright orange. Abdomen above rough dark brown skin with fine yellowish hairs; the underside paler with a small dark lunate stripe behind epigyne, but no others.

The *cephalothorax* is rather longer than broad, rounded at sides, a deep thin fovea enlarged at each end, shallow corrugations along each side of thoracic part.

The *eye-space* is on a low flat quadrangle distinctly raised at the rear as well as at the sides; the rear row is clearly procurved, the rearmost point of lateral eyes reaching only to a line passing through the middle of the medians; the eyes equidistant, equal in size to one another and to the front median. These latter are half their diameter apart and about half that distance from the laterals, which are clearly larger than the median.

There are only three teeth on lower edge of falx-sheath, the fourth, small one, of *P. regina* having disappeared. The epigyne of the female is much squarer and more open at the base than in the latter.

Measurements in millimetres.

		Long.	Broad.				
Cephalothorax ...		6	$\left\{ \begin{array}{l} 3\frac{1}{2} \\ 5 \end{array} \right.$				
Abdomen		8	6				
Mandibles		3 longer than pat. i.					
		Coxæ.	Tr. & fem.	Pat. & tib.	Metat. & tars.		
Legs	1.	$2\frac{1}{2}$	$8\frac{1}{2}$	$9\frac{1}{2}$	$8\frac{1}{2}$	=	29
	2.	$2\frac{1}{2}$	$8\frac{1}{2}$	$9\frac{1}{2}$	$8\frac{1}{2}$	=	29
	3.	2	7	7	$6\frac{1}{2}$	=	$22\frac{1}{2}$
	4.	$2\frac{1}{2}$	8	8	8	=	$26\frac{1}{2}$
Palpi		$1\frac{1}{4}$	$2\frac{1}{2}$	$2\frac{1}{2}$	2	=	$8\frac{1}{4}$

Two females from Perth, West Australia, in Brit. Mus.

PEDIANA HORNII Hogg.

Isopeda horni Hogg, Rep. Horn Exp. vol. ii. Zool. 1896, p. 340.

The eyes of the front row are equal in size; epigyne oval like that of *P. regina*; no spines on tibia iii. or iv.; the front and rear legs are set on rather straight.

Loc. Oodnadatta, South Australia.

PEDIANA TENUIS, nov. sp. (Text-fig. 103.)

This species more closely resembles the preceding; they are both larger and less brightly coloured than *P. regina*; the eyes are set on a similar raised space.

The cephalothorax, legs, palpi, mandibles, sternum, lip, and maxillæ are all black-brown with pale brown hair. The undersides of the femora of front two pairs of legs are bright red spotted with black; the abdomen above is yellowish grey, below reddish brown hair; a black transverse area behind the epigyne is rather deeper than in *P. horni*, almost a short pointed shield.

The *eyes* are bright orange; those of the front row, on a plane

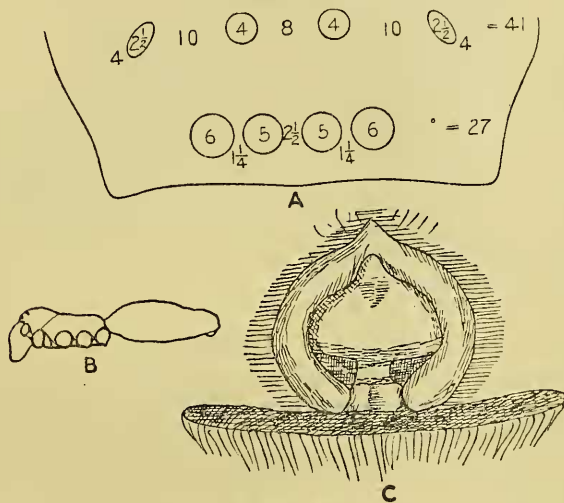
perpendicular to that of the cephalothorax, are straight, the side clearly larger than the median, which are rather nearer to the side than to one another; they are two diameters from the rear median, which are smaller, the four eyes of that row, which is slightly procurved, are equal in size, the median two diameters apart, the laterals two and a half of same distance; clypeus three-quarters diameter of front middle.

The *legs* are short and thin and set on rather straight.

Tibia iii. and iv. have one spine each on upperside.

The *abdomen* is widest near the front, tapering posteriorly. The epigyne is nearly round, the frame-ends at the base not joined, but rather close together.

Text-fig. 103.

*Pediana tenuis.*

A, eyes; B, profile; C, epigyne.

Measurements in millimetres.

	Long.	Broad.				
		5 in front.				
		9				
Cephalothorax ...	10					
Abdomen	16	9 1/2				
Mandibles	4 1/2	= front patella.				
		Coxæ.	Tr. & fem.	Pat. & tib.	Metat. & tars.	
Legs	1.	4	11	13	11	= 39
	2.	4	11	13	11	= 39
	3.	4	9	9	8	= 30
	4.	4	11	11	11	= 37
Palpi		2	4	4	3 1/2	= 13 1/2

One female (dried specimen) from West Australia in Brit. Mus.

Genus *EODELENA*, nov.

This genus I have formed for two specimens, one a fully developed male, the other not adult, sent to the British Museum by Prof. Baldwin Spencer, of Melbourne, in 1888. They were collected on King's Island, Bass's Straits, and, but for their smaller size, in general appearance are scarcely distinguishable from *Delena cancerides* Walck. On looking at the male palp, however, it is seen that what should be a flagellum of ten spirals makes less than one whole turn round the end of the conductor, which is merely flattened and curls round far enough to be the shape of a hook. As the palp does not develop by degrees, but comes out fully formed after casting the skin at the last moult, this must either be a reversion to an ancient form or a remanet. The fact that the palpal development is so similar through different genera indicates that it is an older development than that of the form of cephalothorax &c.; and as the flattened forms must almost of a certainty succeed the unflattened, it is more likely to be a reversion to the original type than to have remained on without alteration. However, if such were thought likely, the hills (now islands in Bass's Straits) would be a not unlikely place for the ancestors to remain. It is in any case an interesting instance of the reproduction of a missing link, and indicates the line along which the specialization has taken place.

Type, *Eodelena spenceri*.

EODELENA SPENCERI, nov. sp. (Text-fig. 104.)

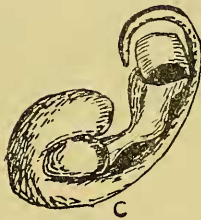
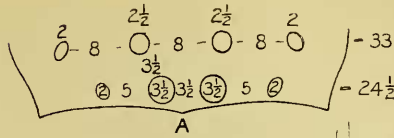
This species differs in nowise in coloration and shape from *Delena cancerides*, but has the important difference detailed above, and the tibial apophysis of male palp is single instead of double.

In the front row of eyes the laterals are nearer to the medians than in that species, being once and a half the distance between the latter.

Measurements in millimetres.

		Male.					
		Long.	Broad.				
Cephalothorax ...		$6\frac{1}{2}$	$6\frac{1}{2}$				
Abdomen		$6\frac{1}{2}$	$5\frac{1}{2}$				
Mandibles		3					
		Coxæ.	Tr. & fem.	Pat. & tib.	Metat. & tars.		
Legs	1.	$2\frac{1}{2}$	8	$10\frac{1}{2}$	$9\frac{1}{2}$	=	$30\frac{1}{2}$
	2.	$2\frac{1}{2}$	10	13	12	=	$37\frac{1}{2}$
	3.	2	7	7	7	=	23
	4.	$2\frac{1}{4}$	8	8	8	=	$26\frac{1}{4}$
Palpi	1		$2\frac{1}{2}$	$1\frac{1}{2}$	2	=	7

Text-fig. 104.



Eodelena spenceri.

A, eyes; B, male palp; C, flagellum and support.

Female (not fully adult).

		Long.	Broad.				
Cephalothorax ...		6½	6½				
Abdomen		9	7				
Mandibles		3					
		Coxæ.	Tr. & fem.	Pat. & tib.	Metat. & tars.		
Legs	1.	2½	8½	9	8½	=	28½
	2.	2½	8	8½	8	=	27
	3.	2¼	7	7	7	=	23¼
	4.	2½	8½	8½	8½	=	28
Palpi							

Genus *DELENA* Walck.

Delena Walck. Apt. tom. i. p. 490 (1837).

DELENA *CANCERIDES* Walck.

This is the only species of the genus found on the mainland of
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Australia and has been recorded from wherever collections have been made at all.

Walckenaer states that the first specimens were brought to Europe from Tasmania by M. Péron (in 1804). The cephalothorax and abdomen are more flattened than in any other species of the family, while the typically laterigrade position of its legs enables it to hide in very narrow crevices, but otherwise leaves it rather helpless. It is somewhat remarkable that with its wide range there should be very little variation in colour or form, this being the only species in the Australasian region. The palpal spiral has ten or eleven turns.

Loc. Australia, Tasmania.

I wish heartily to express my great indebtedness to Prof. Stirling, F.R.S., of the South Australian Museum, Adelaide, for providing me with much important material, and to Mr. R. I. Pocock, of the British Museum, not only for placing at my disposal the collection in his charge, but for his valuable advice, freely given on the many occasions when doubts and difficulties have presented themselves.